

© Commonwealth of Australia 2002

ISBN 0-9581457-0-9

This work is subject to copyright. Apart from any use as permitted under the Copyright Act 1968, the work may be reproduced in whole or in part for study or training purposes, subject to the inclusion of an acknowledgement of the source. Reproduction for commercial use or sale requires prior written permission from AusInfo. Requests and inquiries concerning reproduction and rights should be addressed to the Manager, Legislative Services, AusInfo, GPO Box 1920, Canberra, ACT, 2601.

Inquiries or comments on this report should be directed to:

Communications Officer
National Competition Council
12 / 2 Lonsdale Street
MELBOURNE VIC 3000

Ph: (03) 9285 7474
Fax: (03) 9285 7477
Email: info@ncc.gov.au

An appropriate citation for this paper is:

National Competition Council 2002, *Assessment of governments' progress in implementing the National Competition Policy and related reforms, Volume two: Water reform, August 2002*, AusInfo, Canberra.

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 'help raise the living standards of the Australian community by ensuring that conditions for competition prevail throughout the economy which promote growth, innovation and productivity'.

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.

Table of contents

Abbreviations

1	Introduction	1.1
	The water industry and its impacts	1.1
	Implementation of the reform framework	1.3
	The reforms	1.4
	Economic outcomes	1.11
	Future developments	1.13
	2002 NCP assessment framework	1.14
	Summary of assessment	1.16
2	New South Wales	2.1
	Consumption-based pricing	2.1
	Trade waste	2.7
	Full cost recovery – rural price paths	2.9
	Institutional reform	2.15
	Water allocations and property rights	2.16
	Provision for the environment	2.38
	Progress report issues	2.59
3	Victoria	3.1
	Full cost recovery: urban	3.1
	Full cost recovery: rural	3.3
	Rural dividend payments	3.8

Community service obligations and cross-subsidies	3.11
Water allocations and property rights	3.14
Provision for the environment	3.24
Progress report issues	3.43
4 Queensland	4.1
Full cost recovery: urban	4.1
water boards	4.3
Consumption-based pricing	4.6
Trade waste charges	4.9
Provision for the environment	4.12
Public consultation	4.33
Progress report issues	4.36
5 Western Australia	5.1
Provision for the environment	5.1
Environment and water quality: Integrated catchment management	5.3
Environment and water quality: National water quality management strategy	5.5
Progress report issues	5.12
6 South Australia	6.1
Pricing and cost recovery	6.1
Consumption-based pricing	6.5
New rural schemes	6.9
Provision for the environment	6.14
Environment and water quality: Integrated catchment management	6.21
Environment and water quality: National water quality management strategy	6.23

Public consultation	6.27
Progress report issues	6.28
7 Tasmania	7.1
Full cost recovery: urban	7.1
Consumption-based pricing	7.9
Water allocations and property rights	7.14
Provision for the environment	7.18
Environment and water quality: Integrated catchment management	7.28
Progress report issues	7.31
8 Australian Capital Territory	8.1
Full cost recovery: urban	8.1
Consumption-based pricing	8.4
Progress report issues	8.6
9 Northern Territory	9.1
Provision for the environment	9.1
Public education	9.4
Progress report issues	9.6
10 Murray–Darling Basin Commission	10.1
Pricing and cost recovery: rural	10.1
Trade	10.4
Progress report issues	10.7
Appendix A: List of submissions	A.1
References	R.1

Abbreviations

ACT	Australian Capital Territory
ACTEW	ACTEW Corporation
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
BMAP	Business Management Assistance Program
CoAG	Council of Australian Governments
CRR	Committee on Regulatory Reform (CoAG)
CSO	Community service obligation
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, tax, depreciation and amortisation
EPA	Environmental Protection Agency
ESC	Essential Services Commission
EWP	Environmental water provision
EWR	Environmental water requirements
GDP	Gross Domestic Product
GPOC	Government Prices Oversight Commission (Tasmania)
IPART	Independent Pricing and Regulatory Tribunal
ICRC	Independent Pricing and Regulatory Commission (ACT)
MDBC	Murray–Darling Basin Commission
NCC	National Competition Council
NCP	National Competition Policy
PAWA	Power and Water Authority

PC	Productivity Commission
QCA	Queensland Competition Authority
ROR	Rate of return
ROP	Resource Operations Plan
SCARM	Standing Committee on Agriculture and Resource Management
TERs	Tax-equivalent regimes
WRP	Water Resource Plan
WSAA	Water Services Association of Australia

1 Introduction

Water reform is one of the most complex and challenging of the reform commitments of Australian governments under the national competition policy (NCP) package. It may be one of the most rewarding, however, in terms of favourable economic and environmental outcomes if the reform package is completely and successfully implemented.

The water reform commitments originated in 1994, when the Council of Australian Governments (CoAG) adopted a strategic framework for the reform of the Australian water industry. That framework was subsequently incorporated into the Agreement to Implement the NCP and Related Reforms in April 1995, linking progress on water industry reforms with NCP payments.

The inclusion of water reform in the NCP agreements was a catalyst for beneficial change in the water industry. The water reform framework has since been amended and enhanced, but its basic objective—to produce an economically viable and ecologically sustainable water industry—remains in place.

The framework shares the economic efficiency objectives of the rest of NCP, through its provisions for water pricing and cross-subsidies, investment in new schemes, trading in water entitlements and institutional reform. It is unique, however, in also having explicit environmental objectives and obligations. As such, the framework takes an integrated approach that addresses the environmental, economic and social issues associated with water use.

The water industry and its impacts

The water industry had assets of over \$90 billion (valued at replacement cost) in 1999 (PC 1999).¹ Water is one of Australia's largest industries, with assets estimated to be of a similar magnitude to those of the electricity, telecommunications and airline sectors.

The provision of water and wastewater services to the largest urban areas in Australia produced \$4.6 billion in revenue in 2000-01 and \$792 million in dividends for the government owners of the service providers (WSAA 2001a).

¹ The estimated replacement cost in 2000-01 of the assets of the major urban water providers alone was \$50 billion.

Wastewater treatment and disposal and recycling activities still form only a minor component of the industry, but their share is increasing. In 2000-01, 7.8 per cent of wastewater was reused—a large increase from 4.9 per cent in 1996-97 (WSAA 2001a).

The water industry, in value added terms, is more than one quarter the size of the manufacturing and the agricultural sectors, almost half the size of the electricity industry and three times the size of the gas industry. The potential economic gains from improvements in its performance are considerable.

Bulk and urban water suppliers are predominantly State and local government owned, while the management of many rural irrigation schemes is being devolved to their irrigators. The policy and institutional environment for the industry is becoming more conducive to private sector involvement, including through the leasing out of facilities and contracting of out services.²

Water extraction and use has continued to grow rapidly. From 1985 to 1996-97, total use increased by 65 per cent (much the same as the increase in real gross domestic product (GDP) over the same period). Use for irrigation grew by 76 per cent, urban/industrial consumption increased by 55 per cent and rural use rose by 2 per cent. Australians now use around 24 000 gegalitres of water each year. Around 80 per cent comes from surface water and 20 per cent comes from groundwater sources (PC 2002). Surface water predominates in all States and Territories except Western Australia and the Northern Territory.

The agricultural sector accounts for 70 per cent of water use in Australia, followed by households (8 per cent), mining and manufacturing, and gas and electricity (both 6 per cent), and other service industries (2 per cent) (WSAA 2001b).³ Broadacre farming uses more than half of the water consumed by the whole of the agricultural sector.

Australia's water supply exceeds that of most other countries in per person terms, but Australia also has a high level of water consumption per person. Further, water supplies are not abundant in the areas of highest demand.

The pressure on demand and insufficient regard for the environmental impacts of water use have led to widespread and extensive degradation and depletion of Australia's water resources. Excessive extraction of water has stressed river systems, resulting in losses of productive land, poor water quality and reduced biodiversity. The following are some measurable consequences.

² United Water and Riverland Water, for example, are large private contractors to SA Water. United Water manages and operates Adelaide's water supply and wastewater treatment. Its cost of operations on its commencement was 20 per cent below the historical costs of the operations that it took over from SA Water.

³ The remaining 8 per cent represents delivery losses and unaccounted for losses of water.

- More than half of assessed river basins have excessive turbidity and nutrients, and 32 per cent of assessed basins have excessive salinity (National Heritage Trust 2001).
- Around 26 per cent of surface water management areas are (or close to) being overused, compared with sustainable flow regime requirements. Thirty per cent of groundwater management areas are (or close to) being overused compared with their estimated sustainable yield. A similar proportion are fully allocated or overallocated (National Heritage Trust 2001).
- Algal blooms result in some reservoirs being unsuitable for drinking water supply or recreation for over 25 per cent of the time. The annual cost of the blooms to water consumers is reported at over \$150 million (Australian State of the Environment Committee 2001).
- The latest National Land and Water Resources Audit found that one third of the assessed river length has impaired aquatic biota; over 85 per cent of the assessed river reaches are significantly modified in terms of environmental features; over 80 per cent of the reaches are affected by catchment disturbance; and over half of the river reaches have modified habitat.

Implementation of the reform framework

When adopting the water reform framework in 1994, CoAG stated that the reforms could be implemented within five to seven years, although it acknowledged that the speed and extent of reform depended on the availability of financial resources to facilitate structural adjustment and asset refurbishment.

The CoAG agreement established completion dates for the major reforms (1998 for urban water pricing, the institutional reforms, water trading and allocations for the environment, and 2001 for reform of rural water pricing), but some of these deadlines were later extended. In particular, the timetable for environmental water allocations was extended to 2001 for stressed rivers and 2005 for all river systems and groundwater.

The initial timetable was optimistic; it underestimated the reform task. Significant constraints on the implementation of the reform framework include:

- the complexity of some of the reforms (for example, those that require much research and analysis before effective application);
- the need for extensive consultative and educative processes;

- the demands that the reforms have placed on governments, institutions and stakeholders, including financial demands; and
- the low base from which many of the reforms were initiated.

Jurisdictions are introducing the reforms at different rates and in some different ways. Variances in implementation reflect differences in jurisdictions' starting points (in their legislative frameworks for water, for example) and in the health of their river systems; the diversity of administrative and legislative environments across States and Territories; and differences in the interests and strengths of the relevant stakeholder groups.

Progress in implementation of the reforms has been satisfactory generally, given unforeseen difficulties and the implications of some reforms for the interests of key stakeholders. CoAG (2002) noted that 'substantial progress' was being made on the national water reforms, but that 'water management is currently in a transition phase as jurisdictions implement new water allocation arrangements'.

The reforms

Jurisdictions' fulfilment of their environmental obligations under the reform framework is assuming greater importance as the economic and efficiency objectives of water reform come to be realised. Further, as the problem of degradation of many of Australia's river systems remains acute, the need to progress the environmental aspects of the reforms is becoming more urgent.

The following sections outline the stage that governments have reached in implementing the various reforms, and the outcomes of the reforms.

Proper pricing of rural and urban water

Proper pricing is to be achieved through consumption-based pricing (where cost effective); full cost recovery; removing cross-subsidies, or making them transparent; and disclosing water services supplied at less than full cost, ideally paying suppliers for community service obligations (CSOs).

Price reform in the cities and the major nonmetropolitan urban areas is virtually complete, with the result that most Australians in large urban areas now face water prices that reflect the amount of water they use and that reward conservation. Most larger urban water suppliers now practise or are implementing full cost recovery. All are achieving, or seeking to achieve, positive rates of return. Progress towards reform by the smaller, local government-owned water businesses has been slower. Price reform has generally led to higher prices, but the consequential fall in consumption has meant lower water bills.

-
- The average bill of customers in urban areas declined in real terms by around 5.5 per cent over the five years ending 2000-01 (WSAA 2001a).
 - Consumption-based pricing rather than pricing based on property values is giving customers appropriate price signals and control over the size of their water bills. It is establishing equal treatment of customers using similar amounts of water.

The cross-subsidies between different customer classes have been marked. In the past, commercial and industrial users paid considerably more for water than households paid; for example, the average commercial establishment paid 15 times more for its water than paid by the average household in 1990-91 (IC 1992).

- Water reform is changing this situation. Real prices paid by low and medium water use businesses in Sydney fell by 75 per cent and 65 per cent respectively over the 10 years to 2000-01; high water use businesses were subject to real water and sewerage price increases of around 9 per cent. Prices paid by average industrial customers in Adelaide fell by 8 per cent over the same period (PC 2002).

Price reform in rural areas is less complete. Water is around 8 per cent of total farm costs, on average, so higher prices can be a sizeable additional impost for water-intensive activities.

Where possible, irrigators are being charged for their water use on a volumetric basis. Cross-subsidies between users are being eliminated and the remaining ones are being made transparent. Some jurisdictions are moving faster than others towards full cost pricing, but the situation is complicated by government subsidies to rural water providers. Full implementation of the water reforms depends on the removal (or full transparency) of government subsidies and the efficient management and operation of irrigation schemes.

Investment in new rural water schemes

New schemes and extensions to existing schemes need to be economically viable and ecologically sustainable before they may proceed. No large new dams have been commenced since the water reform framework was put in place, but this principle has been tested by proposals for a dam (which did not proceed) and for extensions to existing schemes. It has been prominent in deliberations on new schemes and will be a consideration for new dams being contemplated in Queensland and Tasmania.

Institutional role separation

This principle requires the function of water service provision to be separated from the roles of water resource management, standard setting and regulation.

The process of separation clarifies the roles and responsibilities of the institutions, allows them to focus on their core business and minimises the scope for conflicts of interest. The changes allow accountability and transparency to be established, and introduce a structural basis for the application of other, relevant NCP principles.⁴ All jurisdictions except South Australia and Western Australia now have independent prices oversight of most of the major suppliers. Western Australia has committed to introduce this measure.

Delivery of water services

The objective of this principle is efficient service delivery on a commercial basis and at the level of international best practice. The principle also involves devolving the management of rural water districts to their irrigators.

All metropolitan water businesses now have a more commercial focus. They are involved in an annual benchmarking project that allows their performance to be compared with other service providers (WSAA 2001a). Such comparisons provide an important incentive for businesses to improve their performance. In the rural sector, irrigators have greater involvement in the management of rural water districts

Improving the commercial focus and performance of water businesses helps to ensure that the potential benefits from water reforms are realised. These benefits are large. Modelled macroeconomic effects of the CoAG water reforms were estimated to improve labour productivity by 16 per cent and capital productivity by 5 per cent across the water industry (PC 1999).

Allocations of water for the environment

A major focus of the water reform framework is on producing better environmental outcomes. Given the severity of the problems, however, gains from the reforms will take longer to achieve, be expensive initially and be more challenging than the other elements of the reform framework. Further, a still limited knowledge base means that the nature and extent of the environmental improvements will be less predictable than other outcomes from reform. More recently, gaining acceptance for environmental reform has been made more difficult by lower water allocations on account of drought in some areas.

⁴ These are the principles relating to independent prices oversight of government business enterprises, competitive neutrality, structural reform of public monopolies, legislation review and access to services provided by significant infrastructure facilities.

Against this background, one of the most complex and contentious features of the water reform framework is jurisdictions' obligation to legally recognise allocations of water for the environment and to follow that through with actual allocations based on the best possible scientific research.

Jurisdictions have made progress toward satisfying their environmental commitments. Given financial considerations, the still developing science for determining allocations, and the effects of allocations on users' interests, however, progress has been slow and not always conformed with the timetable established in the reform framework. Some jurisdictions have not done as well as others in meeting their obligations.

The National Competition Council's assessment of jurisdictions' compliance with their reform commitments for 2002 is described later in this chapter and in the chapters on the individual States and Territories. The following are examples of measures to improve the environment.

- The most concrete measure taken so far is the establishment in 1995 of a cap on diversions of water from river systems in the Murray–Darling Basin. Prior to the cap, water consumption had been increasing at almost 8 per cent each year, and could have further increased by an estimated 14 per cent had the then river management rules been allowed to continue. Importantly, the cap does not prevent new developments in the basin, provided that water for those developments is obtained via improved water use efficiency or purchases from existing developments.
- More recent initiatives have been the agreement to restore flows along the Snowy River to 28 per cent of its natural regime (for details, see NCC 2001) and the Murray–Darling Basin Ministerial Council's decision (April 2002) that a business case for the recovery of 350, 750 or 1500 gigalitres of environmental flows for the River Murray. Issues of equity, property rights and water trading will be considered in the formulation of the latter initiative (see chapter 10, for details of this and other decisions of the Ministerial Council designed to address environmental degradation in the Murray–Darling Basin).
- During 2002, the Victorian and South Australian governments agreed to devote \$25 million in total to improving the environmental health of the River Murray. The joint effort by these governments aims to reduce salinity, improve water quality and save water. The objective is to achieve up to 30 gigalitres of environmental flows.

Integrated resource management and water quality

One objective of the water reform framework is the use of integrated approaches to natural resource management, fully recognising the interdependency of the different natural resource components, including water. Jurisdictions have also agreed to develop the National Water Quality Management Strategy by adopting market-based and regulatory measures

dealing with water quality monitoring, catchment management policies, and town wastewater and sewerage disposal.

In November 2000, CoAG endorsed a Commonwealth proposal to develop a National Action Plan for Salinity and Water Quality.

Box 1.1: The National Action Plan for Salinity and Water Quality

The National Action Plan for Salinity and Water Quality provides for total expenditure of \$1.4 billion to address salinity and water quality problems in 21 priority regions across Australia. It is beginning to help address environmental issues, particularly dryland salinity. All States have signed the intergovernmental agreement that sets out the overarching commitments and obligations of the national plan.

Jurisdictions have agreed to and substantially progressed key policy tools to support the implementation of the national action plan. These tools include national criteria for accrediting integrated regional natural resource management plans, a national framework for natural resource management standards and targets, and a national monitoring and evaluation framework.

Funding for priority projects in South Australia has been provided (totalling \$15 million out of the planned total joint commitment of \$186 million). The Commonwealth and Victorian Ministers approved in February 2002 foundation funding, priority actions and capacity building activities costing almost \$18 million (from their total joint commitment of \$304 million). More recently, the Commonwealth and New South Wales governments agreed to jointly commit almost \$400 million to practical measures to address salinity and improve water quality in New South Wales.

At its April 2002 meeting, CoAG agreed to accelerate the implementation of the national plan.

Governments are now taking integrated approaches to natural resource management and, in the process, spending much more on research.

- **Just \$300 000 was spent on a 1985 review of Australia's water resources and water use. In contrast, a sizeable proportion of the \$29 million spent on the 2001 National Land and Water Resources Audit was directed to water research.**

Plentiful water supply in some areas in the past and inefficient pricing regimes provided little or no incentive for research into supplying and using water more efficiently and sustainably. The increased focus on research is producing better decisions on water issues and the adoption of innovative solutions. It is providing the information required to set and achieve environmental goals. Much more remains to be done in this area, however.

While progress against the CoAG commitments has not been entirely satisfactory, there are positive developments in water conservation and in the recognition and addressing of environmental problems. In rural areas the reforms are helping move the focus away from increasing the quantity of water available and towards increasing the efficiency of water use as a means of stimulating development.

The emphasis in the reform principles on market-determined outcomes also benefits the environment (although market mechanisms alone are not

sufficient to ensure the required level of environmental protection). Volumetric pricing for urban customers, for example, is inducing water savings through efficiencies in use, and reduced consumption is lowering the cost of treating wastewater and lowering the environmental damage from water use.

- Per person water use in Sydney, Melbourne and Newcastle fell by 7 per cent, 12 per cent and 14 per cent respectively from 1990 to 2000 (WSAA 2001b).⁵
- Per person consumption by customers from a selection of major Australian water utilities fell by 17 per cent over the 10 years to 2000-01 (PC 2002).

As Harris (2002) has pointed out, ‘there is a quiet revolution going on—individual farmers, irrigators, manufacturers and many ordinary people are beginning to change their practices, minimise their environmental impacts and focus on quality rather than quantity’.

Water entitlements of rural customers

Jurisdictions have made progress in legislating water allocations for irrigators. They are also committed to the separation of water title from land title and to the clear specification of title (including a registry system).

Nevertheless, the issue of the property right inherent in a water entitlement is receiving increasing attention. Where allocations for the environment reduce supply for consumptive uses, the value of the water right (and, with it, farm values) can be affected, although offsetting impacts would derive from the more certain rights to the water available for rural use.

CoAG (2002) recently re-affirmed the importance of water property rights issues in dealing with the nation’s salinity and water quality problems. The Council noted that the implications of changes to water property rights for investment and the impacts of the changes on water users, particularly farmers, also needed to be considered.

- To clarify these issues, jurisdictions agreed to report to CoAG by September 2002 on opportunities for, and impediments to, better defining and implementing water property rights regimes (including water trading markets and, where appropriate, the responsibilities of water users). Jurisdictions will also report on how they are addressing uncertainties about property rights.

⁵ The Water Services Association of Australia notes that technological change and education campaigns also contributed to this reduction.

- CoAG has attached a high level of importance to the establishment of an effective and efficient system of property rights for water, and to the need for water users to have certainty of access to water.

Trading in entitlements

The reform framework provides for trading in water entitlements, including cross border trading where it is socially, physically and ecologically sustainable.

Trading in water is undertaken in primarily New South Wales, Victoria and South Australia, and is not extensive. While trading was possible in 40 of the 46 systems reported in the 1998–99 Australian irrigation benchmarking report, permanent and temporary water transfers represented only 7.5 per cent of total water entitlements of the systems where trade took place (High Level Steering Group on Water 2000)

- In New South Wales, in 1997-98 11.5 per cent of the total entitlement to consumptive uses was traded, overwhelmingly through temporary trades and mostly within the particular river system (Department of Land and Water Conservation 1999). The value of the trades was conservatively estimated at \$60–100 million.

The volume and value of trade is growing rapidly, however; annual volumes were less than 100 gegalitres during the 1980s, but now are around 800 gegalitres. Further growth will arise from the removal of trade constraints imposed by government regulation and irrigation districts, and the development of better infrastructure for trading, including sophisticated markets, secure title and registry systems. The incentives for water trading are growing; water is becoming more expensive and its supply for consumptive purposes may tighten as a result of drier conditions in some areas and allocations for the environment.

The gains from trading in water entitlements are considerable. These derive from the increase in output as water entitlements flow to their highest value uses.

- Water trading in New South Wales in 1997-98 increased the value of irrigated agriculture by \$65 million (Department of Land and Water Conservation 1999). This is a conservative estimate because the availability of water can save a crop in its final stages where otherwise it might have been lost, and the multiplier effects of the addition to agricultural income are not taken into account.
- In Victoria, the annual increase in returns to irrigators as a result of trading is estimated at just under \$12 million (Department of Natural

Resources and Environment 2002). This figure does not include the benefits from water traded from Victoria into other States.⁶

Public consultation and education

The water reforms provide for government agencies and service deliverers to consult on proposals for change and other initiatives, and to conduct public education programs (including programs in schools).

The consultations and education programs on water use are leading to more informed communities, customers and other key stakeholders. Community-based groups, such as regional water management committees and customer consultative councils, are now influential in water matters. Initiatives by governments and water suppliers to encourage conservation in water use are having positive impacts.

Overall, these activities are producing more informed decisions. Decisions are more likely to be consensus driven and, therefore, satisfy more interest groups. Achieving effective community consultation is a complex exercise, however, and the Council has observed consultation processes that are less than adequate. In these cases, better community consultation remains on the reform agenda.

Economic outcomes

Beneficial economic impacts from the reforms are arising faster and are more apparent than the environmental outcomes of the reforms. This difference partly reflects the more immediate timetable for implementing the reforms that have economic efficiency objectives, but also reflects the intractability of the environmental issues and the long lead times for the environmental reforms to take effect.

The water reforms constitute an important part of governments' microeconomic reform agendas. Like most other structural policy initiatives of governments, the reforms involve initial costs and dislocation for some. The reforms are expected in the longer term, however, to enhance the sustainability of economic activity that depends on water and improve overall economic growth.

Contributions to economic growth will include:

⁶ The department also points to the employment creating impact of water trading. For each 1000 megalitres of irrigation water used on horticulture 30 on-farm, processing and support industry jobs are created. In dairying 15 jobs are created. By contrast, only one job would be lost from the trade of a similar quantity of water out of grazing.

- the more efficient use of resources involved in water provision generally;
- higher value agricultural and other outputs (such as mining) from the redistribution of water to more productive uses through water trading;
- in water-dependent industries such as aquaculture, fewer losses caused by poor water quality;
- improved efficiency in resource allocation resulting from reduced government subsidies to customers and water providers, and fewer cross-subsidies;
- more efficient use of new and existing water assets. The 'economically viable' test for new investments in rural schemes is reducing wasteful investment and ensuring future generations do not have to pay for poor current decisions; and
- increased recreational and tourist activity induced by cleaner (especially fewer algal blooms) river systems and storages.

A recent study (Australian Academy of Technological Sciences and Engineering and the Institution of Engineers, Australia 1999) shows that an 'adaptive management scenario' for water use (which incorporates key features of the CoAG reforms) produces an outcome for various macroeconomic variables in 2020-21 that is little different from the 'trend scenario'. The latter scenario (which envisages water use growth at past rates), however, is found to be unsustainable given constraints on water availability. Under the 'adaptive management scenario', the share of agriculture in the economy remains the same as in the 'trend scenario', although the regional distribution of activities is different, the use of water is more efficient, and there is a shift to more intensive forms of irrigated production.

The PC (1999) estimated that the CoAG water reforms will have a positive, although negligible, impact on GDP, and marginally improve export volumes and post-tax real wages. The study may have underestimated the positive GDP impact because the modelling focused on the metropolitan and nonmetropolitan urban water reforms, and did not account for rural users (which account for 70 per cent of water consumption) or the effects of the reforms to water trading, water rights and the criteria for new water investments.

Moreover, the water reforms are helping to limit the rate of environmental degradation, thus limiting the reductions in productive capacity and the other costs associated with a deterioration in water quality and availability.

Future developments

The environmental aspirations of the water reform framework are the most challenging of its various objectives for governments. They will be an important, continuing focus of assessments by the Council.

More generally, price tensions are resulting as demand for water for consumptive and environmental uses grows in the face of constraints on developing new supplies. The capital cost of a permanent transfer or purchase in the Murray–Darling Basin rose to around \$800 per megalitre by the end of the 1990s from levels of around \$300 per megalitre in the early part of that decade.

Fortunately, aspects of the water reform framework (such as full cost and volumetric pricing) are helping to moderate demand for water and individuals, business and governments are actively pursuing water conservation and efficiency measures. The water savings from these measures can be significant, as shown by the following examples:

- The planned Wimmera–Mallee pipeline would save 93 000 megalitres of the 120 000 megalitres currently used by that system. The envisaged capital cost (\$300 million) or around \$3200 per megalitre, however, is considerable.
- A New South Wales cotton farm, by adopting better irrigation techniques, has raised its yields (as a result of less waterlogging) and increased its water use efficiency by 45 per cent, giving an overall lift in annual profit of \$100 000 (*Australian Financial Review*, 24 April 2002, p. C5).
- As much as 40 per cent of water channelled for irrigation is lost to evaporation and seepage (Australian Academy of Technological Sciences and Engineering and the Institution of Engineers, Australia 1999). The Cooperative Research Centre for Freshwater Ecology estimated that 15 per cent of irrigation water from the River Murray is lost to seepage. The Land and Water Resources Research and Development Corporation suggests that irrigators should be able to achieve 70–85 per cent water use efficiency, but many (especially flood irrigators) are operating at below 50 per cent efficiency.⁷

⁷ Note, however, that some of the ‘inefficiencies’ consist of irrigation water lost to river systems. For this reason, care needs to be taken in measuring the environmental gains from water efficiency savings.

2002 NCP assessment framework

In December 2001, Senior Officials of CoAG endorsed a proposal to prioritise jurisdictions' water reform commitments across the 2002 to 2005 NCP water assessments. They agreed that the 2002 assessment would largely comprise a follow-up on issues outstanding from the 2001 assessment of jurisdictions' progress across the entire water reform framework. (These are described as **assessment issues**.)

It was also decided that the Council would report on developments in some areas identified for examination in the 2003 NCP assessment. These areas of the water reform framework were not to be assessed in 2002, but progress is reported as a bridge to the 2003 assessment (described as **progress report issues**). (As a general rule, the Council will call for progress reports on key issues in the year before their assessment.) In addition, it was decided that the Council would consider issues raised in submissions from stakeholders.

As part of the preparations for the 2002 NCP assessment, the Council publicly released a framework document (NCC 2002) to:

- set out a clear, transparent basis for the assessment;
- identify the information that jurisdictions should provide to demonstrate compliance;
- outline the scope of the 2002 assessment and issues identified for future assessment, to guide public submissions; and
- provide a basis for early identification and bilateral discussion of reform outcomes that are proving difficult to achieve.

The Council's 2002 water assessment framework is available on the Council's website (www.ncc.gov.au). Background on the source of jurisdictions' obligations and the intentions of the reforms is in the Council's 2001 water assessment framework.

In addition to the annual NCP assessment, the Council may conduct supplementary assessments where they would be of value in furthering the timely and proper implementation of the water reform framework.

Assessment issues

The main issues set down for assessment in 2002 are:

- aspects of full cost recovery by nonmetropolitan urban water and wastewater businesses;

- consumption-based pricing through two-part tariffs in certain jurisdictions;
- aspects of full cost recovery, consumption-based pricing, CSOs and cross-subsidies in relation to the rural water providers of some jurisdictions;
- any new rural water schemes, to ensure they are economically viable and ecologically sustainable;
- aspects of the practices of New South Wales, Victoria and Tasmania in relation to water allocations in water management plans and water property rights;
- jurisdictions' progress in implementing environmental allocations of water, including actions to alleviate the conditions of stressed rivers;
- aspects of the integrated resource management practices of Western Australia, South Australia and Tasmania;
- compliance by Western Australia and South Australia with the National Water Quality Management Strategy; and
- certain issues concerning the public consultation and education obligations of Queensland, South Australia and the Northern Territory.

Progress report issues

The Council also has examined some areas due for assessment in 2003, providing progress reports on:

- the implementation of tax equivalent regimes by metropolitan water service providers, and developments in the factoring of externalities into pricing by urban service providers;
- certain aspects of consumption-based pricing in New South Wales, Queensland and Western Australia;
- the reporting of CSOs by Victoria, Queensland and Tasmania;
- jurisdictions' reporting of cross-subsidies;
- aspects of institutional reform by jurisdictions;
- jurisdictions' progress in devolving the management of irrigation schemes; and
- jurisdictions' implementation of water trading arrangements.

The assessment process

Regular and intensive consultations were held with jurisdictions during the course of the 2002 assessment. The Council's deliberations depend on the availability of extensive information on the issues being addressed, and jurisdictions were mostly helpful in responding to requests for information on progress in implementing their reform obligations.

As in previous years, stakeholders made important contributions to the assessment process. The Council received 17 written submission on a range of water reform issues. (A list of the submissions is at Appendix A.) Where possible, those who provided submissions were met, and the Council received a number of oral submissions in meetings with other groups.

Summary of assessment

The remainder of this chapter summarises, by jurisdiction, the outcomes of the Council's deliberations on the 2002 water reform issues. All assessment issues and some of the major progress report issues are covered in this summary chapter.

New South Wales

Consumption-based pricing – bulk water services

In 2001, the Council had not received information on bulk water services offered by Hunter Water Corporation, Gosford City Council and Wyong Shire Council. In particular, it was not known whether these bodies provided bulk water services and, if so, whether there was sufficient separation from their retail service businesses to enable them to calculate an efficient bulk water price.

New South Wales reports that Gosford City Council and Wyong Shire Council do not have bulk water supply businesses, so a ringfencing issue does not arise for them.

The Hunter Water Corporation supplies bulk water services to two customers. They are charged prices determined by the Independent Pricing and Regulatory Tribunal. The charges are consumption based and structured as two-part tariffs. In the light of additional information provided by New South Wales, the Council considers that this assessment issue has been addressed.

Consumption-based pricing – two-part tariffs

In 2001, the Council had concerns about the rate of progress by some nonmetropolitan urban water service providers, particularly Tweed Shire, in reviewing the cost effectiveness of two-part tariffs and winding back free water allowances. At that time, Tweed Shire had not conducted a review to demonstrate whether two-part tariffs were cost effective.

For 2002, therefore, the Council was looking for significant progress by nonmetropolitan urban water service providers (primarily by Tweed Shire) in reviewing the cost effectiveness of two-part tariffs, winding back free water allowances, and taking action if these reforms were found to be cost effective.

New South Wales has received written notification from Ballina Shire Council, Tweed Shire Council, Forbes Shire Council, and Parkes Shire Council confirming the elimination of across the board free water allowances and the implementation of full usage-based tariffs from 1 July 2002. Orange City Council has adopted two-part tariff pricing with a reduced general water allowance for landowners responsible for nature strip maintenance. New South Wales also reports that Bathurst Council implemented a fixed annual charge and an inclining block tariff during 2001-02.

New South Wales also advises that it has given priority over the past 12 months to encouraging noncomplying, large nonmetropolitan urban providers to move to two-part tariff pricing. New South Wales has continued its policy of encouraging smaller nonmetropolitan urban providers to move to two-part tariff pricing, where it is cost effective.

The Council is satisfied that New South Wales has made progress on the outstanding 2001 assessment issue, which required progress, primarily in relation to Tweed Shire Council, in reviewing the cost effectiveness of two-part tariffs and winding back free water allowances. Tweed Shire Council and other large councils, which had previously not moved to full usage based pricing, have provided commitments which satisfy these requirements. Tweed Shire is committed to eliminating free water allowances and the implementation of full consumption-based tariffs from 1 July 2002. The Council is satisfied that this issue has been met for this assessment. Further, New South Wales continues to make progress with a number of the larger local councils on this issue.

The Council, however, notes that a significant number of councils with more than 1 000 connections are yet to satisfy the CoAG commitment in relation to two-part tariffs, which was due for completion by the end of 1998. The Council expects this commitment to be virtually complete by the time of the 2003 NCP assessment.

In particular, the Council expects all remaining nonmetropolitan urban water providers with more than 1000 connections to have made a commitment to

introducing two-part tariffs or adopting other usage based pricing policies which meet the CoAG requirements⁸ within an appropriate timeframe where cost effective, and a significant reduction in the use of free water allowances and property value based charging.

Because of the low rate of compliance among smaller local governments, it is the Council's view that New South Wales needs to pursue a strategy to improve performance of these councils over the next 12 months. The Council notes in this regard that New South Wales has taken positive action by releasing the *Water Supply and Trade Waste Pricing* brochure. In order to meet the requirement to have implemented two-part tariffs by June 2003, New South Wales will need to implement such a strategy by the end of 2002 at the latest, in order for local governments to be in a position to make the necessary commitments by June 2003.

Consumption-based pricing – trade waste

While the Council has recognised that in most cases volumetric charging for wastewater is not cost effective, volumetric pricing should be considered for large dischargers or businesses with high strength waste in order to provide an incentive to minimise waste. In 2001, the Council found that trade waste charges were not extensively used in New South Wales and that the absence of such charges could lead to nontransparent and inefficient cross-subsidies between large and small dischargers.

New South Wales reports that, in general, local governments levy waste charges when discharges from commercial or industrial premises reach certain threshold levels. The Council notes the recent release of new guidelines for the operation of trade waste sewerage services and streamlined administrative arrangements for trade waste regulation in New South Wales. However, evidence that thresholds are being set in a manner that promotes efficiency was not provided by New South Wales. The State has taken some measures to promote volumetric charging, including new pricing guidelines for water supply, sewerage and trade waste.

The new pricing guidelines for water supply, sewerage and trade waste are an advance in the processes used by New South Wales. The Council, however, ultimately needs to assess the outcomes of reform. For this reason, the Council will revisit the extent of adoption of trade waste charges in the 2003 NCP assessment for urban pricing. New South Wales has made sufficient progress in winding back property value based charges for nonmetropolitan providers for this assessment.

⁸ The Council will look at the structure of these tariffs in 2003 to ensure they are consistent with CoAG commitments.

Consumption-based pricing – Sydney Water Corporation

In 1996, Sydney Water Corporation eliminated domestic property value based charges for water services and commenced phasing out the use of property values for commercial water charging.

The 1999 assessment reported that remaining property value based tariffs would be eliminated by 2002. For the current assessment, the Council required an update on progress in phasing out property based charges.

The current IPART determination for Sydney Water Corporation is due to end in June 2003. New South Wales expects there would be a further decline in the use of property values for pricing in the next determination. The Council is satisfied that the 2001 NCP commitment is being met.

Full cost recovery – rural price paths

In its 2001 assessment, the Council concluded that New South Wales had not met its commitment to achieve full cost recovery by rural water schemes or to provide a timetable for achievement. The Council committed to reassess this issue in 2002, when it expected guidance to be available from New South Wales on price paths for achieving full cost recovery.

In December 2001, the Independent Pricing and Regulatory Tribunal announced caps on annual price rises for bulk water supplied by State Water, a ringfenced business unit within the Department of Land and Water Conservation. The Tribunal's 2001 three year bulk water determination sets an increase in State Water's recovery of costs from 61 per cent in 2000-01 to 74 per cent in 2003-04. Further, the Council has found that when this figure is disaggregated by water source, the regulated rivers (80 per cent of all water use in New South Wales) will be achieving 94 per cent of costs by the end of the determination period. Only 31 and 32 per cent for unregulated and groundwater sources respectively, however, will have met full cost recovery commitments. The Council recognises that full cost recovery for rural water supply will be largely an issue for unregulated and groundwater sources in future assessments.

The Council also notes that that the cost-base is likely to increase over time, due to the increasing need to mitigate environmental impacts. New South Wales has argued that this added variable makes an end date for full cost recovery difficult to determine. Whilst New South Wales has not proposed an end date for reaching full cost recovery, the Council has confidence in the mechanisms used in New South Wales to achieve it, particularly the independent role of the Tribunal in reaching full cost recovery which is tempered by the ability of customers to absorb these costs. The Council will reassess this issue in 2004 where it will expect New South Wales to have

continued to pursue rural full cost recovery with the same previously displayed rigor.

A key issue for 2003 will be institutional reform arrangements between the Department of Land and Water Conservation and State Water as this may impact on determining the individual elements of full cost recovery. The New South Wales Government is proposing to conduct an independent review of the governance structure of State Water. Consequently, the Council has delayed its assessment of whether New South Wales has met the institutional reform commitments. This will be a significant issue for New South Wales in the 2003 NCP assessment.

Water allocations and property rights

In 2001, the Council had insufficient information to determine whether New South Wales had fully addressed its property rights obligations. The Council considered suspending the State's 2001-02 NCP payments, given the importance of property rights reforms and the delays in finalising these arrangements. Because the New South Wales Government committed to a comprehensive action plan for reform, however, the Council considered that the best approach was to allow an additional time period for implementation.

The Council called for a re-examination of progress by New South Wales through a supplementary assessment (January 2002) and as a key issue for the June 2002 assessment. The Council signalled its intention to consider payment recommendations if New South Wales had made insufficient progress by that time.

The January 2002 supplementary assessment considered the proposed form of the register of water entitlements. It concluded that the register model being developed was sound and that the consultation being undertaken was sufficient.

The property rights elements assessed in 2002 are: the water sharing plans; the State water management outcomes plan; the information systems for the interim register; and licence conversions and licence and approval policies and processes. All these elements are important for defining water property rights.

In conducting the 2002 NCP assessment, some groups were continuing to express serious concerns about aspects of the New South Wales system of implementing water property rights reform. Irrigators, for example, are concerned about the certainty of their water allocations. The banking sector is concerned about mortgage security with the conversion to a new licensing system, because the owner of the land may not be the owner of a water licence. While there is broad support for the register, media articles have noted stakeholders' demands for a register to be established similar to that conducted by the Land Titles Office.

The State water management outcomes plan targets have not been finalised. New South Wales will not be able to confirm any targets until the Government has finalised the plan. The current target to reduce (or phase down) the total volume of water specified on licences to no more than 200 per cent of the long-term average diversion limit in surface water systems is still under consideration. The targets are being developed in consultation with communities, having regard to social and economic factors as well as scientific factors. If a large number of committees raise concerns about the same target then New South Wales may need to revisit the targets in finalising the State water management outcomes plan. The Council will need New South Wales to provide information to indicate that the final cap target is reasonable given the natural variability in the availability of water and high variability of use.

By the end of June 2002, 36 of the 39 draft water sharing plans had been made public. The Council has examined a number of the plans. The property rights approach in these plans is to set plan and cap limits for diversions over the life of the plan.

The Council's approach to property rights looks for all States to deliver certainty in ownership of the property right and surety as to its characteristics. The registry system is important, particularly for ownership. Further, the State water management outcomes plan, the water sharing planning process and the licence conversion process are important for defining property rights.

Water sharing plans, once finalised, will be legally binding for the next 10 years. The plans will provide security of access for environmental water and for all water users during the 10-year term. Licence holders will be able to claim compensation if their water access is reduced during a plan's term where the plan's bulk access regime is varied for unspecified purposes.

The Council is satisfied with the rollout by New South Wales of its new water property rights arrangements and considers that it is making every effort to comply with its CoAG commitments. For the 2001 NCP assessment, New South Wales provided a timetable of property rights commitments to be implemented over two years – the State is on track with implementing each element.

At this stage, however, the Council considers that there is insufficient information to conclude that New South Wales has complied with all its NCP commitments in this area for this assessment. There have been further delays, although New South Wales has been doing all it can to address this particularly difficult issue, and is making significant progress in meeting each of the relevant requirements.

The Council has examined the draft water sharing plans and considers that some of them are likely to change significantly before finalisation, given that they contain some aspects that are inconsistent with the Water Management Act 2000, State Government policy and that the targets in the State water management outcomes plan are yet to be finalised. The Council also notes that there has been some problems with the process involved in implementing

this first round of plans, but recognises the enormity and complexity of the task of reforming the New South Wales water management system. These process problems have complicated the transition to a new property rights system.

The water sharing plans represent significant progress in the management of water resources in New South Wales. Water management committees have undertaken considerable work in considering the gamut of issues raised and the nature of trade-offs that may be required. The Council recognises that the process of balancing the wide ranging views and opinions of interest groups with the technical information required for decision making is difficult.

The Council intends to conduct further assessments of the performance of New South Wales on this issue.

- The Council will conduct a supplementary assessment before the end of 2002 to consider the final State water management outcomes plan, the final water sharing plans and the first round of annual implementation programs. As part of that assessment, the Council wants to discuss with New South Wales the process and timeframe to develop the next round of water sharing plans.
- Progress against the property rights timetable will continue to be a key issue for New South Wales in the 2003 NCP assessment.

Provision for the environment – the State water management outcomes plan

In the 2001 NCP assessment, New South Wales notified its intention to develop a water management outcomes plan to set the overarching policy context, targets and strategic outcomes for the development, conservation, management and control of the State's water resources. The plan would set a clear direction for water management action and ensure that environmental, economic and social river flow objectives were specifically addressed.

In 1997, the New South Wales Government asked the water management committees to recommend a package of environmental flow rules. An upper limit on the impact the rules could have on irrigation supplies was set at 10 per cent of the long term average cap figure. Flow targets set by the State water management outcomes plan would be referred to water management committees to ensure the water sharing plans comply. If an environmental target is adopted, the Council would need to be convinced of the scientific basis for the target. The Council undertook to assess this issue in the 2002 NCP assessment.

The Council has found that the New South Wales water reform process recognises that the science of water management is constantly improving. The State's legislation and the water sharing plans being developed recognise

that a truly scientific approach must incorporate active adaptive management.

The Council's 1999 assessment forecast a 7 per cent reduction in diversions in the long term as a result of the 1998 interim environmental flow rules. The interim State water management outcomes plan shows the actual impact on diversions of the flow rules, ranges from 3 per cent (for the Namoi River) to 17 per cent (for the Macquarie River), and up to 5 per cent for the remaining rivers. The plan contains targets that call for a 10 per cent improvement in the frequency of 'end of system' flows where this is less than 60 per cent of predevelopment levels. At the time of writing, draft water sharing plans for the Namoi, Lachlan, Murrumbidgee, and Gwydir regulated rivers provide a marginal improvement in environmental allocations, but still are some way from reaching some of the targets in the State water management outcomes plan.

At the time of writing, the targets in the State water management outcomes plan were being reviewed. Some changes to the plan are expected, with many of the changes designed to clarify the intent of the targets. The revised targets will go back to water management committees with a view to the plan being finalised in September 2002. The Government believes that the changes made in finalising the State water management outcomes plan will not affect the viability of the water sharing plans.

The State water management outcomes plan sets both long term outcomes and five year management targets for water resource management. It is a guide for planning. The targets do not seek to establish an ultimate position or standard for each water sharing plan but rather to establish a significant but practical step in the process of continuous improvement. Not all targets will be relevant to every plan. The State water management outcomes plan process is being run in parallel with the water planning process on an iterative basis.

Given likely further movement on the targets between the interim State water management outcomes plan and the final plan, the Council has insufficient information to conclude that the State water management outcomes plan targets meet the State's NCP commitments. The Council does, however, support the direction the plan is taking. It will assess the final State water management outcomes plan as part of a 2002 NCP supplementary assessment to be conducted by the end of the year, including how the plan's targets are incorporated in the final water sharing plans.

Provision for the environment – water sharing plans

In 1999, the Council assessed the 1998 New South Wales interim environmental flow arrangements for all regulated rivers. The Council was satisfied that New South Wales had met minimum commitments to act on stressed rivers.

For the 2002 assessment, the Council undertook to examine the first round of New South Wales water sharing plans (which aim to improve the outcomes of the interim environmental flows decided in 1998 and establish new environmental flow provisions for key unregulated and groundwater systems). The Council would assess the timeliness and quality of the reforms in these plans against the national principles for the provision of water for ecosystems.

The Council considers that some plans may change significantly between the draft and the finals, particularly given that the State water management outcomes plan targets are still to be finalised and that the Minister's notes raise a range of issues. The Council is therefore not in a position to assess whether the final water sharing plans comply with CoAG commitments. This is not due to lack of effort on the part of New South Wales, but because the plans must be finalised before the Council can reach a definite conclusion. The Council is therefore unable to assess at this time whether the water sharing plans comply with CoAG commitments.

The water sharing plans will build on the environmental flow rules already in place on the regulated rivers. The Council therefore thinks it is not unreasonable, given the State's efforts, to allow New South Wales extra time to properly complete this important reform. These efforts include embarking on the most comprehensive stressed rivers assessment process undertaken in Australia, passing legislation capable of providing significant outcomes for the environment, and progressing a process for delivering water plans for more than 80 per cent of the State's water resources. The Council will defer examination of the final water sharing plans to a supplementary assessment to be conducted by the end of 2002.

To aid all parties in the possible directions of the 2002 supplementary assessment, the Council believes it is useful to point out some observations on the process so far and to identify where a number of plans may evolve in a way that might not comply with CoAG commitments. The Council notes that the plans have not been finalised and that the New South Wales Government is working with committees to address these issues. The Council has limited its comments to those aspects of plans that are considered to be problematic.

In the 2001 NCP assessment, the Council deferred its assessment of New South Wales progress on stressed rivers against the national principles for the provision of water for ecosystems. For this 2002 NCP assessment, the Council has again decided to defer an assessment of progress against the national principles until the final water sharing plans are in place. A full assessment of the final plans against the national principles will occur in the 2002 supplementary assessment. On the basis of the draft water sharing plans that have been publicly released, the Council can infer that some plans in their present state may not meet the requirements of the national principles.

With regard to the plans, the Council has raised concerns about timeframes for achieving sustainable resource use and the lack of transparency in water sharing decisions. New South Wales will need to address these matters in

finalising the plans and they will be key areas for consideration in the 2002 NCP supplementary assessment to be conducted by the end of the year.

The Council believes that the proposed provisions in some draft plans may lead to a marginal improvement in the conditions of stressed river ecosystems. For the end of 2002 NCP supplementary assessment, the Council expects to see final plans contain environmental allocations that ultimately provide for an improvement in the condition of the rivers. The Council draws particular attention to the Namoi and Murrumbidgee river draft water sharing plans as needing modification before the Council can be satisfied the State has met its NCP obligations.

In relation to monitoring and performance indicators for the plans, at the time of writing the New South Wales Government was yet to develop generic performance indicators for each water source,⁹ and so all drafts contain Minister's notes that these indicators are still to be finalised. These performance indicators have implications for the development of monitoring arrangements to deliver the objectives of the water sharing plans. These performance indicators will also be assessed in the 2002 supplementary assessment, as a key issue for the delivery of the final water sharing plans.

Victoria

Full cost recovery – urban

In 2001, the Council concluded that a number of nonmetropolitan urban providers (referred to in Victoria as regional urban water authorities) were not operating on a commercially viable basis as defined by the CoAG guidelines. The Victorian Government noted its intention to announce a price path that would establish full cost recovery within three years. Victoria also announced that an Essential Services Commission would be created as an independent economic regulator to oversee the implementation of the price paths.

The Council noted that demonstration of further progress on full cost recovery, particularly among the regional urban water authorities, would be a significant issue for its 2002 assessment.

In late June 2001, the Minister for Environment and Conservation released details of a new framework for water pricing. It caps prices that Victorians will pay for water over the three years to June 2004. Victoria states that the

⁹ These are being developed and will include indicators for low flows, moderate to high flows, ecological health (generally or for specific ecological communities or habitats), water quality, the economic benefits of consumptive water use, equity among licence classes, basic rights, and town water supplies.

price framework provides an appropriate balance between the need to meet the economic imperative of responsible financial management and the social imperative of protecting customer interests by minimising pricing impacts. It was introduced following extensive industry and community consultation.

Victoria expects all regional urban water authorities to be operating between the lower and upper CoAG pricing bounds by the end of the 2004 price path. The methodology used to calculate price paths for the regional urban water authorities appears to be consistent with the CoAG pricing principles.

Full cost recovery – rural

For the 2001 NCP assessment, Victoria provided indicative information only on the level of full cost recovery by the rural water authorities. For Goulburn–Murray Water, the largest rural authority, 25 of 34 schemes were recovering an amount consistent with the lower bound of the CoAG pricing guidelines. Goulburn–Murray Water advised that the nine schemes that were not operating on a commercially viable basis (10 per cent of Goulburn–Murray's total rural services), would be shown to be commercially viable for 2000–01.

Victoria has now provided information indicating that some districts supplied by Goulburn–Murray Water are still not recovering full costs. For the fourth consecutive year, sales revenue was well below normal due to drought conditions reducing the amount of water available in the Goulburn system. In 2001, Goulburn–Murray Water reviewed and revised its tariffs to achieve full cost recovery.

Victoria is in the process of developing several initiatives that will enhance its approach to cost recovery in the rural sector. While the role and responsibilities of the Essential Services Commission for the rural water sector are yet to be determined, a proposals paper foreshadowed special arrangements to apply to the rural water authorities. These authorities, in consultation with their rural customer committees, will prepare and submit pricing proposals (consistent with a set of pricing principles defined by the Government) to the Essential Services Commission for review. Where the principles are complied with, the Essential Services Commission will recommend to the Government that it accept the proposed prices. Where proposed tariffs are not consistent with the pricing principles, the Essential Services Commission will recommend to the Government that it reject the prices and that the rural water authority be required to submit revised tariffs.

Victoria's 2002 NCP annual report stated that an asset valuation practice statement which adopts the deprival value concept has been developed. For the time being, the new accounting policy excludes water businesses due to uncertainty about the application of fair value measurement of the infrastructure assets they hold. Consultation with these businesses will be undertaken to resolve these issues.

Victoria reports that an initial draft of the guidelines for renewals annuities was developed late in 2001. Further work is required, however, before consultation with rural water businesses can commence. The Council will reassess the situation when Victoria has finalised its approach.

Renewal annuities are the preferred method to reflecting the future requirement for refurbishing and replacing water and wastewater infrastructure assets. The Council is satisfied that Victoria's draft guidelines for renewals annuities reflect the CoAG pricing commitments. These are, however, non-prescriptive guidelines subject to change, and the extent of adoption of this methodology by water and wastewater businesses remains to be seen.

Victoria states that, on average, all rural water services achieve full cost recovery. Victoria also intends the Essential Services Commission to oversight the prices of all rural water authorities from 2004. Given Victoria's intention that recent changes in its pricing policy will reduce temporary under recovery in some schemes in the Goulburn-Murray region, the Council will conduct a progress report on this issue in 2003.

Full cost recovery – rural dividend payments

In its 2001 assessment, the Council noted that dividends paid by rural water authorities were not based on the CoAG commercial principles – these state that dividends should be set at a level that reflects commercial realities and simulate a competitive market outcome.

Victoria has committed to work on a commercially based dividend framework, and will consult with the rural and regional urban water authorities as part of that process. While there is no commitment for rural water authorities, Victoria intends that a framework for dividends will apply to regional urban water authorities for 2002-03.

The Council has not received sufficient information from Victoria to determine whether the current methodology for determining dividends and actual dividend payments are consistent with commercial principles. Given Victoria's intention to develop a dividend framework, the Council will reassess Victoria's progress on dividend payments for both regional urban water authorities and rural service providers in 2003.

Rural full cost recovery – community service obligations and cross-subsidies

In its 2001 NCP assessment, the Council was concerned about the lack of transparency in community service obligations (CSOs) among rural water authorities. It accordingly suggested that the noncommercial elements of the rural water authorities be separately identified and reported.

The Council was also of the view that Victoria had yet to meet cross-subsidy commitments in full. While progress in reforming cost recovery and consumption based pricing had decreased the scope for nontransparent cross-subsidies, a more rigorous consideration of this issue was needed to meet CoAG commitments. At that time, Victoria advised that it would consider the issue of identifying and reporting cross-subsidies over the twelve to eighteen months period following the 2001 NCP assessment, with a view to establishing a preferred approach before the Essential Services Commission assumed responsibility for regulating water prices. Victoria will also require rural water businesses to report CSOs in their annual reports, commencing in 2001-02.

In its 2002 NCP annual report, Victoria indicates that it is yet to develop guidelines on the identification, measurement and reporting of cross-subsidies. It may do so, however, subject to finalising new regulatory arrangements to transfer prices oversight to the Essential Services Commission.

While the regulatory arrangements for the Essential Services Commission have yet to be finalised, Victoria expects the pricing principles under the framework will ensure that cross-subsidies are identified and transparent. If the Essential Services Commission regulation reveals significant cross-subsidies between services and/or customers, Victoria will reconsider the need for guidelines for its water businesses.

The Council is satisfied with the actions Victoria proposes for the reporting of CSOs by rural water businesses. The Council remains concerned, however, about the lack of a rigorous consideration of cross-subsidisation. In 2001, Victoria advised that it would consider the issue over the next 12–18 months. There has been no progress on this commitment over the past 12 months, but Victoria argues that there are few, if any, rural cross-subsidies.

The Council recognises that some mechanisms are now in place to reduce the occurrence of cross-subsidies in the rural water sector. The Council will reassess this issue in 2003.

Water allocations and property rights

In June 2001, the Council found that Victoria's system of water property rights met the CoAG commitments. The Council considered, however, that progress in the rollout of Victoria's implementation program of bulk entitlements, streamflow management plans and groundwater management plans had been slower than anticipated. The Council undertook to reassess Victoria's progress in June 2002.

An issue that emerged in 2001 concerned the cumulative impacts on property rights and the environment of the capture of surface runoff by farm dams. At that time, Victoria was in the process of developing a policy on this issue, so the Council committed to reassess this issue in 2002.

For the 2002 NCP assessment, the Council also undertook to assess the property rights aspects of Victoria's proposed river health strategy. Further, the Sunraysia rural water authority had announced that the tenure of private diverters' licences would be reduced from 15 years to five years on renewal. The Council was concerned that this decision effectively undermined irrigators' property rights.

The Council considers that the Farm Dams Act 2002 is a significant achievement by Victoria in reaffirming water property rights and addressing environmental river health. Prior to the Act, there was no mechanism to control irrigation dams constructed off waterways to capture overland flow. Landholders could build farm dams on their properties to capture such flow with no consideration of the effect on downstream users. The Council commends Victoria on the manner in which it has addressed its commitment.

Victoria's progress on its bulk entitlement program and streamflow management plans has further slowed. No more plans have been finalised beyond the three that were endorsed and in operation in June 2001. Nevertheless, the Victorian river health strategy has set some robust targets for completing the bulk entitlement program and advancing the key streamflow management and groundwater management plans.

The Victorian river health strategy requires winter sustainable diversion limits to be in place by December 2002 and proposes that overall sustainable catchment limits be in place by 2005 for all catchments and aquifers. Limiting extractions protects the security of existing consumptive users and environmental flows, and provides for the sustainable use of groundwater systems. The Council considers that the system of diversion and catchment limits proposed by Victoria provides a suitable mechanism to protect the environment from excessive diversions and to ensure water users understand the limits of the available resource.

Victoria is progressing arrangements with the Sunraysia Rural Water Authority, although the path to resolving this issue remains uncertain.

The Council is satisfied that Victoria has addressed property right issues and will re-examine progress in this area in 2004.

Provision for the environment

In 2001, the Council concluded that Victoria had made insufficient progress in increasing environmental allocations and restoring the health of its stressed rivers. In that assessment, however, Victoria committed to a comprehensive program over three years to address its most stressed rivers. By June 2002, Victoria was to have completed a publicly endorsed river health strategy and begun implementing action plans for its stressed rivers.

Given the delays and the importance of allocating sufficient water to Victoria's stressed rivers, the Council made the reassessment of this issue a

priority for 2002. The Council signalled its intention to consider payment recommendations if Victoria made insufficient progress.

In March 2002, the Victorian Government released the draft Victorian river health strategy for public consultation. The strategy was developed to protect and restore Victorian rivers over the long term.

A key question for this assessment was how Victoria sets an appropriate environmental flow regime. Clarifying current entitlements to divert water for consumption sets bulk entitlements, which are legal entitlements under the Victorian system. Environmental flow needs are then assessed and a trade-off is made based on an analysis of the predicted environmental benefits and the impact on the security of users. Victoria has argued that this process complies with the CoAG requirement of achieving a better balance in water resource use (including allocations for the environment).

Victoria also advised that for catchments that are relatively undeveloped with ecologically healthy rivers, the Government's emphasis is on protecting existing environmental values. In rivers where the water resources are highly developed and generating significant economic activity, the emphasis needs to be on achieving an appropriate balance between the needs of the environment and consumptive users.

Another key issue is the nature of the trade-offs made in deciding what the environment receives. In making a decision on an appropriate environmental flow regime that either does not meet (or does not meet in the short term) the scientifically recommended one, Victoria's view is that the community has agreed to accept a higher level of environment risk and/or a certain level of environmental degradation as a consequence. It is the Council's view, however, that to do this properly there needs to be independent science that models scenarios that identify levels of risk to the environment to allow the community to make informed choices.

The Council has been concerned to ensure the risks to the environment posed by the negotiated environmental flow regimes are explicitly and transparently acknowledged. The Council has seen the terms of reference for the recently announced independent technical review panel that is to provide advice on environmental flow requirements to consultative committees. The environmental flow studies, the draft water management plans, and the reports of the independent technical review panel will be made publicly available. The Victorian Government has also committed to include in the draft guidelines to be used by consultative committees the need for plans to incorporate a description of the risks both to the environment and to the users of an agreed flow regime. The Council has also sought to ensure that the Victorian system provides for a balance of broader community interests.

While generally satisfied with the mechanisms in the Victorian river health strategy, the Council has been concerned that the timeframes may be too long. The strategy provides two stages to provide water for the environment in developing individual river health strategies, but it is the Council's view that the consultative committees may need to consider the two stages

simultaneously, especially for the stressed rivers of high value identified in regional river health strategies.

With regard to the nominated stressed rivers program, Victoria has advised that there are a number of flow rehabilitation studies under way, and it is not possible to commit to stage 2 funding at this stage until the costs are known and weighed against the environmental benefits. Victoria expects, however, to deliver stage 2 flow regimes in more than the nominated rivers over the next three years.

The Council is satisfied that the mechanisms contained in the river health strategy provide the tools for Victoria to meet its stressed rivers commitment. The 2001 commitment to develop an overarching river health strategy has been met. The Council will assess the first round of five stressed river plans in the 2003 NCP assessment against the stage 1 and 2 mechanisms of the river health strategy. To prepare for that assessment, the Council's Secretariat will hold quarterly consultative meetings with Victorian officials to monitor progress in developing these plans in accordance with the proposed reform path.

Compliance with principle 3

Principle 3 of the national principles for the provision of water for ecosystems requires the legal recognition of environmental water provisions.

In 2001, the Council found that the Water Act explicitly recognises environmental conditions on bulk entitlements, but the environmental allocations set by streamflow management plans were not statutorily based. For the 2002 NCP assessment, the Council undertook to review this issue.

The Farm Dams Act 2002 has provided statutory backing for the provisions of streamflow and groundwater management plans. The Minister may now decide to accept or reject a plan if it is not consistent with the legislation, or the proper process has not been followed. The Council is satisfied that the changes embodied in the Farm Dams Act 2002 address principle 3 and meet the outstanding issue raised in the 2001 NCP assessment.

Compliance with principle 5

Principle 5 states that where environmental water requirements cannot be met due to existing uses, action (including re-allocation) should be taken to meet environmental needs.

In the 2001 NCP assessment, the Council found that the streamflow management plans and bulk entitlement mechanisms were insufficient in providing environmental water requirements for the stressed rivers. For this assessment, the Council committed to reassess progress against principle 5 in

the light of the Victorian river health strategy and the three year action plan for stressed rivers that appeared in the 2001 NCP assessment.

It is the Council's view that the bulk entitlement and streamflow management plan processes alone will not be sufficient to meet this principle. Nevertheless, Victoria has agreed that the consultative committees may simultaneously consider and recommend stage 2 proposals for stressed rivers identified to be of high value in regional river health strategies. The Council will therefore be looking for Victoria to invest in stage 2 proposals, with priority consideration being given to rivers in the nominated three year stressed rivers program.

In 2001, Victoria was given an extension of time to meet its commitments on stressed rivers. In future NCP assessments, the Council will need to assess whether the environmental outcomes in individual plans are being delivered, given that the State has yet to meet the 2001 commitment for action on stressed rivers. Progress on the initial five stressed river plans will be a key issue for Victoria in the 2003 assessment.

Compliance with principle 6

Principle 6 states that further allocation of water for any use should only be on the basis that natural ecological processes and biodiversity are sustained.

In 2001, the Council found that Victoria was meeting principle 6. The Water Act requires a water authority to consider the impact on the environment and other users before issuing a licence. An emerging issue in 2001, however, was the cumulative impact of winterfill dams on water resources. The Farm Dams Review recommended processes to deal with this impact. In indicating its intention to reassess compliance with principle 6 in 2002, the Council advised that it would examine the Government's response to the 2001 Farm Dams Review recommendations.

As a result of the Farm Dams Act, streamflow management plans and groundwater management plans will specify monitoring and compliance conditions, and rural water authorities must publicly report on compliance with the provisions of plans. The Council, accordingly, is satisfied that Victoria is meeting principle 6 and has addressed the outstanding 2001 issue.

Queensland

Full cost recovery – urban

Queensland has reported that all local governments with more than 5000 retail water connections, but outside the big 18 local government areas, have now implemented, or are committed to implementing full cost pricing. For

local governments with between 1000 and 5000 connections, the Council's 2001 NCP assessment noted that there were still a significant number that were either still considering full cost pricing or that had decided not to introduce it.

The Queensland Government has now reported a significant improvement in reform implementation by these local governments – all but one have decided to implement full cost recovery. There are 125 local governments in Queensland. Of these only six have neither implemented water reforms nor committed to their implementation. Of these six, five are small service providers with less than 1000 connections.

Queensland has achieved a high degree of success through the Government's Business Management Assistance Program. There has also been a substantial increase in the level of understanding within local government about the reforms and their benefits. The Council considers that Queensland has met its 2002 NCP commitments for the implementation of full cost recovery by local government.

Full cost recovery – water boards

At the time of the Council's 2001 assessment, information on cost recovery levels for certain water boards was only available for the period prior to commercialisation. The Council then proposed to look for competitive neutrality adjustments, such as tax equivalent regimes and commercial rates of return, by these boards in its 2002 assessment.

The information provided by Queensland indicates that prices for both Gladstone Water Board and Mount Isa Water Board include competitive neutrality adjustments and a positive rate of return, and therefore meet the CoAG commitments. The Townsville–Thuringowa Water Board has indicated its intention to comply with the CoAG full cost recovery obligations.

Consumption-based pricing

In the 2001 NCP assessment, the Townsville Council failed to demonstrate that it had objectively analysed the cost effectiveness of two-part tariffs and provided a public interest justification on why it would not implement price reforms. Two years had passed since the Council first expressed its concerns and this matter was still unresolved. Consequently, the Council recommended a permanent reduction in Queensland's NCP payments of \$270 000 from 2001-02.

The Council stated it would reconsider Townsville's approach to two-part tariffs in its 2002 NCP assessment, and whether a continued reduction in NCP payments was warranted.

Townsville City Council commissioned independent consultants to carry out a second assessment of the two-part tariff pricing policy. The Council has reviewed this assessment and raised several concerns with the Queensland Government. The findings of the second report are currently being assessed by the Queensland Competition Authority as part of its assessment of local governments' progress in implementing competition reforms. The Authority will be assessing whether Townsville's second report meets the requirements set down in the Government's guidelines for evaluating two-part tariffs, and whether the report's recommendations rejecting two-part tariffs are supported by rigorous analysis.

There has been some progress on this issue since the 2001 NCP assessment, and the Council supports the Queensland Government's decision to have the Queensland Competition Authority review the report. It is now three years, however, since the Council first expressed its concern regarding this issue and hence the Council has found that Townsville is still non-compliant. The implications of this issue for Queensland's NCP payments are considered in the Council's findings and recommendations section in volume 1 of the NCP assessment report.

Consumption-based pricing – trade waste charges

At the time of the 2001 NCP assessment, the Council understood that some local governments levied trade waste charges but no details of the charging arrangements had been provided. The Council stated that it would further consider the issue of trade waste charges in its next assessment.

Queensland has advised that legislation requires local governments operating sewerage systems to develop a trade waste environmental plan by 1 July 2003. To support this legislation, Queensland has produced a model trade waste environmental plan.

Under the plan, local governments are encouraged to operate their trade waste services on a full cost recovery basis. All local governments must have a complying trade waste environmental plan in place by 30 June 2003 if they operate a sewerage business. Advice indicates that the model plan has widespread industry support and is seen as the benchmark for sewerage business pricing throughout Queensland.

Fifteen of the big 18 local governments are operating a charging structure similar to the model plan. The remaining three are in the process of adopting a policy and pricing structure similar to the plan.

The Council is satisfied that Queensland has a program in place to encourage the adoption of trade waste charges, that the program is being implemented by local government and that Queensland has a mechanism to review and assess the level of implementation. The Council concludes that Queensland has met this reform commitment.

Allocations – provision for the environment

In 2001, the Council concluded that Queensland had generally met its environmental commitments with the exception of the Condamine–Balonne Basin. The Council found emerging evidence that the basin is a stressed river system. It examined the adequacy of the three options contained in the draft Condamine–Balonne water resource plan (WRP) to address the environmental problems identified, but concluded that if any of the three options were implemented it may be appropriate to recommend a substantial penalty in the 2002 NCP assessment for noncompliance with reform commitments.

For the 2002 NCP assessment, the Council was expecting to see a final WRP for the Condamine–Balonne consistent with CoAG water reform commitments.

In September 2000, a comprehensive moratorium was placed on the starting of any new works on the Condamine–Balonne catchment that would lead to an increase in the taking of water, either in watercourses or as overland flow water. This moratorium has effectively put an interim cap on the capacity to divert and store water in the basin.

A satisfactory Condamine–Balonne WRP is critical for Queensland's compliance with the water reform framework, and as a means to set Queensland's diversion limits under the Murray–Darling Basin cap. Work is currently underway on attaining appropriate environmental allocations of water in the Condamine–Balonne Basin. In this context, the State Government has commissioned a six-month independent review of the science associated with the impact on the environment from water use in the Basin and committed to act on the findings of the review.

At the time of writing, the Queensland Government released a salinity hazard map for Queensland's section of the Murray–Darling Basin, including the Condamine–Balonne Basin. The map shows some 26 million hectares of land have the potential to develop significant salinity problems in the next 30–50 years. Extensive public consultation with key stakeholders was underway to develop urgent solutions to the problem. This consultation is to culminate in a forum on 2 August 2002 to discuss solutions. The Government stated that without urgent changes to land practices, serious salinity problems will threaten the environment as well as the existence of towns such as Dirranbandi and St George in the Condamine–Balonne Basin. The Queensland Government has recognised that salinity is but one issue that must be addressed in the broader context of water, vegetation management and land use issues.

Queensland has been discussing a wide range of possible options for addressing these issues with the Commonwealth and the New South Wales Governments. As noted above, options include the Queensland Government acquiring Cubbie Station, Australia's biggest cotton producer, as part of its efforts to restore the Condamine–Balonne river system. The volumes of water

extracted and stored, and the way water is used will be considered. Further, the suitability of certain land uses and the need for industry incentives, readjustment, and restructuring will also be assessed. Any Queensland proposal is expected to provide end of valley flows for the Narran Lakes in Northern New South Wales, a wetland of international importance, a national park on the Queensland-New South Wales border and other areas of national importance.

A question the Council has raised during this assessment is what Queensland would do in the event the Commonwealth did not provide any assistance. Queensland advised that it would then have to reconsider its approach.

The Council notes that the Condamine–Balonne is a Queensland river system and it is Queensland's obligation to address its stressed condition. Given that a proposal to address this issue is presently being considered by governments, the Council has decided, on balance, that there are grounds for delaying judgement until more information is available. The Council has therefore decided it appropriate to conduct a supplementary NCP assessment on the Condamine–Balonne WRP in February 2003.

The Council considers this is an appropriate approach given that evidence emerged only in 2001 that the basin was stressed and given the efforts being made by the Queensland Government to address this issue.

Nevertheless, the river system is stressed and should insufficient progress be made on this issue by the time of the supplementary assessment the Council would consider an NCP payments recommendation.

Burnett Basin WRP

In 2001, the Council examined the Burnett Basin WRP and found that it met CoAG commitments. In December 2001, however, the Queensland Government passed legislation that amended a number of the environment objectives in the WRP. The Council needed to re-examine the modified WRP to be satisfied that it still complies with Queensland's CoAG commitments.

The Queensland Government has argued that the legislative amendments resulted in small changes to a handful of objectives in the original Burnett Basin WRP, and that those changes have not, in any way, threatened the integrity of the WRP or its effectiveness as a tool for managing the water resources of the Burnett Basin.

The Council notes that while the modifications have not altered the stated general outcomes of the WRP, they enable an additional 66 000 megalitres per year to be allocated for consumptive use, resulting in an alteration to the plan's ecological outcomes. In this regard, Queensland has indicated that it is considering measures to address this alteration.

It is the Council's view that the revised WRP incorporates a minor level of change in the medium and high water flow objectives. In a number of instances, however, the flow objectives have moved further away from those presented as the environmental flow limits, and this is a potential concern.

The Council does not consider that the modification of the WRP means the Burnett is now a stressed system. Given that the amended WRP has resulted in only minor changes from the outcomes contained in the original WRP, the Council reaffirms its 2001 finding that the WRP complies with CoAG commitments. To be certain, however, the Council will review the provisions of the forthcoming Burnett Basin resource operation plan (ROP). This is consistent with the Council's findings in the 2001 assessment in relation to the Burnett WRP. The Burnett ROP will need to show how it will achieve the general and ecological outcomes stated in the WRP to ensure that ecologically sustainable outcomes will be realised.

Compliance with national principle 4

Principle 4 of the national principles for the provision of water for ecosystems states that 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 while recognising the existing rights of other water users.

The 2001 NCP assessment found that no ROPs were advanced enough for examination at that time, so the Council deferred examination of compliance with this principle until the 2002 NCP assessment when the Fitzroy Basin ROP was expected to be in place.

Queensland has advised that work is progressing to release a draft ROP for the Fitzroy Basin in August 2002. Some 40 submissions on the proposal are being considered. The ROP will be released for three months public consultation. Subject to any further studies that may be necessary, the ROP process is expected to be finalised in early 2003.

The Council will re-examine future ROPs for the Fitzroy Basin, and possibly the Burnett Basin, against principle 4 in its next NCP assessment.

Compliance with principle 5

Principle 5 states that where environmental water requirements cannot be met due to existing uses, action (including re-allocation) should be taken to meet environmental needs.

The 2001 NCP assessment concluded that the Council would look to Queensland's response on the development of a new Condamine–Balonne WRP to assess whether the State had met principle 5. Queensland committed

to treat this issue as a priority, so the Council undertook to review the WRP against principle 5 in 2002.

The new WRP will contain the new environmental flow objectives. The Council will assess developments and compliance with principle 5 in the February 2003 supplementary assessment of the new Condamine–Balonne WRP.

Compliance with principle 8

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

The 2001 NCP assessment found that Queensland was undertaking scientific assessments to determine future monitoring programs to ensure the data collected measure the performance of WRPs. A pilot program was being applied in the Condamine–Balonne Basin and, if successful, would be applied to other river systems in the State. The Council decided to consider the application of principle 8 in the 2002 NCP assessment as further developments occurred.

The Council will reassess the new Condamine–Balonne Basin WRP and the Fitzroy Basin ROP against principle 8 in 2003. The Council may also examine other WRPs and ROPs, monitoring reports and any other relevant documents with regard to this principle.

WRPs for other stressed systems

In 2001, the Council concluded that the process of setting environmental flows is an adaptive one and that the results from Queensland's WRPs, ROPs and monitoring of ecological outcomes were yet to be seen.

Queensland has a moratorium on withdrawals from its portion of the Murray–Darling Basin system, which includes the Border Rivers. The finalisation of the Condamine–Balonne Basin WRP will define Queensland's adoption of the Murray–Darling Basin cap. The Condamine–Balonne Basin accounts for the bulk of the Murray–Darling Basin water sourced from Queensland.

The Condamine–Balonne Basin is the only area in Queensland where a WRP is being developed that is acknowledged as being, or at risk of becoming, stressed or overallocated.

Public consultation

In 2001, the Council found that Queensland continued to actively consult with all stakeholders in all aspects of its reforms and had ongoing consultation and education mechanisms. The Council was satisfied that Queensland had met its commitments in this area.

The Council found, however, a need for greater transparency in the WRP process. For the 2002 NCP assessment, the Council committed to monitor developments in public consultation on WRPs.

In relation to the modified Burnett WRP, the Queensland Government had enacted legislation to amend the Water Act requirement for public consultation, for reasons of administrative expediency, but the Council considers that such processes do not help to instil public faith in the transparency of Queensland's WRP arrangements.

Queensland has re-affirmed its commitment to transparency. In particular, reports required by legislation will now be augmented. The next such report (on the Condamine–Balonne) will include the augmented information. The Council will reconsider this issue in 2003 when it assesses the final Condamine–Balonne WRP.

Progress report issue: new rural schemes – the Paradise Dam

In 2001, the Queensland Government announced an intention to proceed with the design of the Paradise Dam project in the Burnett Basin region. The development proposals include a major dam on the Burnett River (with a capacity of up to 300 000 megalitres) to support agriculture and industrial expansion in the lower Burnett region.

After assessing all relevant material, including over 200 public submissions, the Coordinator-General recommended in October 2001 that the Burnett River Dam proceed. The Coordinator-General determined that the adoption of a series of mitigation measures could adequately address the detrimental impacts of the development. The project has received Commonwealth environmental approvals subject to certain conditions.

Completion of an environmental impact assessment process does not automatically lead to a decision to invest in the project. This decision will occur when the potential investors (public or private sector) have established that appropriate rates of return will be achieved on their investment.

The results of testing have demonstrated that the outcomes specified in the Burnett Basin WRP would be retained following the development of the dam project, given that the flow release strategy associated with the dam will essentially comply with the WRP's environmental flow objectives. Any departures from the WRP objectives are minor.

The Queensland Government allocated \$35 million for the Burnett River infrastructure development project in the 2002 State Budget. The Government cited this decision as evidence of its commitment to build a major dam on the Burnett River. A final decision has not been taken, but the Queensland Government has projected a starting date for construction of late 2003 or early 2004.

The Government is aware of its obligations in terms of CoAG water reform that should the dam proceed it will need to be shown it is economically viable and ecologically sustainable.

Western Australia

Provision for the environment

In its 2001 assessment, the Council noted that Western Australia might need to revise its 1999 implementation plan for developing water management plans and environmental provisions, to align it with new data and priorities. The Council indicated that it would continue to monitor both the progress made in developing water management plans and any increased water use that may require particular plans to be completed earlier than scheduled. Western Australia provided an updated implementation plan for the 2002 NCP assessment.

Western Australia continues to progress water allocations for the environment. Its revised program for the implementation of water management plans shows no stressed or overallocated surface water systems that required action by June 2001. The State has until 2005 to fully implement its implementation program. The Council is satisfied that Western Australia has met the 2001 NCP commitment.

Environment and water quality – integrated catchment management

In the 2001 NCP assessment, the Council was concerned with Western Australia's slow progress in implementing actions to address broader catchment management issues. It undertook to review the State's implementation of integrated catchment management in the 2002 NCP assessment.

Western Australia has endorsed an integrated catchment management–natural resource management policy. Partnership agreements between the Western Australian Government and natural resource management groups are in development to provide support, clarify expectations and quantify deliverables.

Since June 2001, there has been some progress in the development of regional strategies. Western Australia has signed an intergovernmental partnership agreement with the Commonwealth as part of the National Action Plan on Salinity and Water Quality. The development of the regional strategies to achieve integrated catchment management objectives, including salinity management, will be negotiated as part of final bilateral agreements under the National Action Plan. The Council is satisfied that Western Australia has met the 2001 NCP commitment.

Environment and water quality – National Water Quality Management Strategy

In 2000, Western Australia developed a State Water Quality Management Strategy as the framework to implement the requirements of the intergovernmental National Water Quality Management Strategy. The endorsement of the strategy meant Western Australia met minimum commitments for the 2001 NCP assessment, but the Council expressed concern at the rate at which the State was adopting the strategy.

In 2001, Western Australia provided the Council with a provisional timetable outlining a process to implement the strategy. Given the delays in implementation, the Council determined that it needed to examine evidence of progress against the timetable over the next three NCP assessments. In the 2001 NCP assessment, the Council stated that it would expect certain outcomes for the 2002 assessment.

Western Australia has since advised that the State Water Quality Implementation Plan was not released in 2001-02 due to priorities associated with the recent drought. Work by Western Australia on ten of the guidelines scheduled for commencement in 2001-02 has not started and is not scheduled to commence in 2002-03 either.

Western Australia has argued there is a need to change the agreed timetable it provided in the 2001 NCP assessment and that it does not believe that noncompliance with the timetable should be the sole basis for assessment of its commitment to implementing the strategy.

Western Australia also submits that it has applied the national water quality management strategy in a variety of practical and meaningful ways outside the program submitted to the Council in 2001. It is also Western Australia's position that development of implementation plans for some of the national guidelines is not warranted at this time given the low numbers of relevant industries in Western Australia.

Western Australia has argued there is a need to change the agreed timetable it provided in the 2001 NCP assessment and that it does not believe that noncompliance with the timetable should be the sole basis for assessment of its commitment to implementing the strategy.

Western Australia has not met the outstanding 2001 NCP commitment and has made little progress against its water quality commitments in the water reform agreements. Western Australia has made no progress against its three-year timetable and has withdrawn from some of the commitments it made. The Council is not aware of any good reasons why the national strategy has not been implemented in Western Australia by now.

While Western Australia's failure would ordinarily attract a recommendation by the Council that part of the State's NCP payment be suspended, the Council is prepared to allow Western Australia more time for the implementation of its water quality commitments and get the program back on track.

The Council has agreed that Western Australia would fully meet its relevant 2002 NCP assessment commitments if it can complete and implement those plans identified by the Council in the 2001 assessment. Such action would give the Council confidence that Western Australia can deliver the outcomes of the national strategy and meet its water quality commitments.

Consultative meetings will be held in December 2002 and March 2003 between the Council's Secretariat and Western Australian officials to ensure sufficient progress is being achieved. It is proposed that a number of milestones be reached by the time of those meetings (see chapter 5).

Should the Council consider insufficient progress has been made by those meetings, it may submit a report to the Treasurer recommending a suspension of some of Western Australia's quarterly NCP payments. In 2003, the Council will consider, as part of the assessment of compliance by all States with the National Water Quality Management Strategy, whether Western Australia continues to make sufficient progress against its commitment.

South Australia

Pricing and cost recovery

In 2001, the Council recognised the sound financial performance of SA Water and commended its efforts to improve service quality and efficiency. It was concerned, however, that the increasing proportion of profits being returned to the Government as dividends may limit the scope for future investment by the business.

SA Water paid dividends of \$175.2 million in 1999-2000, representing 124 per cent of profit after tax. The Water Services Association of Australia reported SA Water's 1999-2000 dividend payment as the highest (relative to profits) among the country's large metropolitan services.

The Council stated that it would review the matter in 2002 to ensure South Australia's dividend policy is consistent with the CoAG pricing guidelines, which require that dividends where paid reflect 'commercial realities and simulate a competitive market outcome'. Two primary considerations in this regard are the potential impact of limited reserves being retained within SA Water for the funding of future investment from retained earnings, and the erosion of the asset base of SA Water.

The Council considers that a reasonable upper bound for the dividend distribution policy of a government water service business is the corporations law requirement that dividends may be paid only out of profits, given, among other considerations, the CoAG requirement that dividends reflect commercial realities. The adoption of the limit in the corporations law would safeguard the authorities against being left with insufficient financial resources, which could undermine service quality. This approach would also help satisfy competitive neutrality principles.

In some limited circumstances a dividend distribution that exceeds 100 per cent of the after tax profits of a statutory authority service provider may not have adverse consequences. It may be warranted, for example, by an authority wanting to move to a better capital structure by increasing its debt ratio. Such a move could help minimise the authority's weighted average cost of capital. SA Water's gearing ratio is low (at approximately 23 per cent), but South Australia has not indicated that its dividend policy is a means of moving to a more efficient capital structure.

Overall, the Council has concerns about South Australia's dividend policy. Its approach runs the risk of running down assets, reducing financial viability and reducing service standards below minimum requirements. The Council will be reviewing the dividend payment policies of all jurisdictions in 2003. At that time, it expects that South Australia will have in place appropriate safeguard mechanisms against the potential adverse effects of high dividend payout ratios.

Consumption-based pricing

In the September 2000 supplementary assessment, South Australia undertook to reform the pricing of commercial water. In the 2001 NCP assessment, the Council decided to monitor the implementation of these water pricing reforms. With regard to commercial wastewater, however, South Australia found that consumption-based wastewater charges were not cost-effective. The Council remained concerned that the use of charges based on property values may result in nontransparent cross-subsidies that are inconsistent with CoAG commitments, and that the pricing arrangements made transparent consideration of the issue virtually impossible.

With regard to trade waste, the Council considered that the new trade waste arrangements represented a significant improvement on the existing system.

South Australia is continuing to implement the reforms envisaged in the September 2000 supplementary assessment, consistent with the timetables provided in that assessment. It now has a legislated price path that will eliminate commercial free water allowances over a five-year period.

In the absence of an independent process for reviewing prices, however, the Council will continue to monitor prices in South Australia, particularly those that contain components based on property values because there is a risk of nontransparent cross-subsidies.

Arrangements to implement the new broader trade waste charges are well advanced. South Australia is continuing to implement the reforms envisaged in the supplementary NCP assessment of September 2000, consistent with the timetables developed in that assessment. The Council remains concerned, however, that property values are being used as a basis for allocating costs among customers, albeit reducing in proportion to total cost. This process has the potential to result in nontransparent cross-subsidies that are not consistent with CoAG commitments.

The Council is satisfied that South Australia has made adequate progress in meeting its 2002 wastewater and trade waste commitments. For the reasons outlined above, however, the Council will re-assess commercial charging arrangements in South Australia when it assesses urban price reform in 2003.

New rural schemes

In 2001, South Australia was considering two proposals for the supply of irrigation water to existing high value adding irrigation areas. It had continued to transfer the remaining two Government-owned irrigation areas to irrigation trusts managed by the irrigators and, as part of the transfer process, each district's water supply infrastructure was being refurbished. At the time of the 2001 assessment, the Council noted progress on these four projects. For the 2002 NCP assessment, the Council sought further information and evidence to demonstrate the ecological sustainability of the projects.

In relation to the Loxton rehabilitation project, the Council is satisfied that the studies of the project demonstrate that South Australia has met commitments to ensure its ecological sustainability. In relation to the Barossa Infrastructure project, water allocations will be purchased from the trading market to ensure the proposal is consistent with all necessary management plans for the Murray–Darling Basin. The Council considers that the project complies with the CoAG commitment regarding ecological sustainability. A decision to proceed with the Clare Valley project and Lower Murray rehabilitation project has yet to occur.

Provision for the environment

In 2001, South Australia identified a need to improve knowledge of environmental water needs and definitions of stress. As called for by the State Water Plan 2000, a stressed resources assessment review was to be conducted, with the outcomes to be used to advise the Government on how to identify water resources under stress (or at risk of stress) and how to respond appropriately. This review was expected to occur in late 2001. The Council undertook to report on developments in South Australia's progress, including the stressed resources assessment review, in the 2002 NCP assessment.

The review is to commence in July 2002. A 12-month timeframe has been allocated for it and the outcomes will be considered when the current water management plans are reviewed, with the first reviews expected to begin in 18 months.

South Australia is continuing to improve its knowledge of environmental water requirements, with a number of new investigations and research activities underway. In addition, in October 2001 the River Murray catchment water management board released the draft water allocation plan for the River Murray. The plan sets a total volume of River Murray water that may be allocated each year. Specific volumes are defined for particular uses pursuant to South Australia's compliance with the Murray–Darling Basin Ministerial cap. The plan also proposes a maximum of 200 gegalitres each year for wetland management purposes.

The plan sets a target to increase median flows for South Australia's portion of the River Murray. The current median flow of the River Murray is 4850 gegalitres per year, or 38 per cent of the natural median. The median flow target of 7025 gegalitres over the life of the plan would improve the flow to 55 per cent of the natural median and enhance river health.¹⁰ The water allocation plan is scheduled to be finalised in July 2002.

In addition to the draft water allocation plan, in April 2002 South Australia and Victoria agreed to establish a \$25 million joint fund to improve the environmental health of the River Murray. The aim of the fund is to achieve an additional 30 gegalitres of environmental flows for the river. South Australia has committed to provide \$10 million to the fund by 1 July 2005.

Finalisation of the draft water allocation plan for the River Murray will complete South Australia's implementation program to establish water allocation plans. Fourteen of the original fifteen water allocation plans were complete in January 2002, with only the River Murray plan remaining.

¹⁰ The Council notes that achievement of these targets may require actions from other Murray–Darling Basin States, because the proportions exceed South Australia's allocation under the Murray–Darling Basin cap.

The Council continues to be satisfied that South Australia is making satisfactory progress and has met its NCP commitments.

Compliance with principle 5

Principle 5 of the national principles for the provision of water for ecosystems provides that where environmental water requirements cannot be met due to existing uses, the jurisdiction needs to take action (including re-allocation) to meet environmental needs.

At the time of the 2001 NCP assessment, evidence indicated that the Marne River and the Inman River may be stressed. The Marne River and potentially other river systems in the eastern Mount Lofty Ranges have become stressed by high levels of water extraction. The Inman River has been identified as stressed in terms of water quality.

CoAG commitments require action, including re-allocation for the environment, in stressed and overallocated rivers by 2001. The Council considered that action to re-allocate water to the environment should occur by 2002 and called for a reassessment against this CoAG principle in 2002.

In relation to the Marne River, South Australia advised that a research project looking at science and use information is being undertaken to determine the river's environmental water requirements, as well as those of other eastern Mount Lofty Ranges watercourses. The Minister has declared an intention to prescribe the Marne River and Saunders Creek as a result of concerns about sustainability. Public consultation — due to end in May 2002 but extended — is being undertaken on the need for prescription to set legally binding mechanisms to provide water for the environment in accordance with a water allocation plan.

If these water resources are prescribed, water allocation plans will be developed for these systems. The Council considers that the Marne River and any other eastern Mount Lofty system that may be prescribed are additions to South Australia's implementation program, so the Council will assess the water allocation plans for these systems as they are completed.

Environment and water quality – integrated catchment management

In 2001, the Council found that South Australia was well advanced in the development of catchment water management plans in the areas surrounding Adelaide. It noted, however, the seemingly slow planning and implementation for catchment management in areas further away. South Australia has advised that the initial focus of catchment water management boards was the preparation of water allocation plans. With these plans now endorsed, the boards are now completing their catchment water management plans. South

Australia provided a timetable for the development of the remaining plans, and the Council undertook to reassess progress against this timetable in the 2002 and 2003 NCP assessments.

The Water Resources Act requires the South Australian Water Resources Council to develop a report on the implementation of the State Water Plan 2000. This will include the development of catchment water management plans. A consistent report card framework has been developed for the review of these plans, and it is being trialled as part of the reporting process. The Water Resources Council will make recommendations to the Minister based on the outcomes of the reviews.

The Government is considering new arrangements for integrated catchment management. The broad vision is to ensure integrated natural resource management is based on the development of water catchment areas and the continuation of 'skill-based boards'.

Since June 2001, South Australia has made some progress in developing catchment water management plans. It is on track to have all plans completed by mid-2003. The Council considers that South Australia has met the outstanding commitment for this assessment.

Environment and water quality – National Water Quality Management Strategy

In 2001, South Australia released a draft environmental protection (water quality) policy to implement the policies and principles that comprise the intergovernmental National Water Quality Management Strategy. The Council then found that South Australia showed an ongoing commitment to a coordinated approach to water quality management. The Council was concerned, however, about the slow pace of finalisation of the policy to implement the national strategy. The Council undertook to reassess this issue in 2002 assessment and expected the policy to be implemented by then.

South Australia has advised that development of the policy has taken longer than anticipated because a large number of submissions were received during the extensive consultation period required under the Environment Protection Act. Changes made as a result of the submissions must be subject to a further round of consultation. In May 2002, South Australia provided the Council with a timetable for the completion of the policy.

The Council notes, nevertheless, that governments first agreed on the National Water Quality Management Strategy for freshwater and marine water quality in 1992. South Australia has not met the outstanding commitment and has made little progress. The Council, however, accepts the Government's reasons for the delay in implementing the reform, including the need for full consultation.

The Council will next assess compliance by all States with the National Water Quality Management Strategy guidelines in the 2003 NCP assessment. In 2003, it will assess South Australia's compliance against the timetable published in this assessment and expects the Government to have released 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. If the environmental protection (water quality) policy is not in place for the 2003 NCP assessment, then the Council will need to take this aspect of noncompliance into account in its NCP payments recommendations.

In 2001, the Council found that the Inman River was a stressed system in terms of water quality. The development of a new treatment plant by SA Water should address the water quality concerns with the Inman River.

Progress report issue: institutional reform – structural separation

The Minister for Government Enterprises is the owner of SA Water and has the authority to decide water prices. The Council's 2001 assessment framework noted that if the same Minister is responsible for regulation and service provision, the Council would require information about how any resulting potential conflicts of interest were addressed.

In 2001, the Council concluded that South Australia appears to have processes for transparency in setting and monitoring customer service standards. With pricing, however, there is no similar transparency. This makes it difficult for the Council to be confident that pricing decisions will be consistently based on the principles set out in the CoAG water agreement. The Council accordingly needs to closely monitor all pricing issues in South Australia and review all changes to confirm their consistency with the water reform agreements. This includes continuing to seek information to confirm that cross-subsidies are transparently reported.

All of these issues would be resolved if there were an independent body to review the pricing arrangements and publicly release a report. The government could respond to that report and present a statement of reasons if it decided to adopt an approach divergent from the recommendations of the report. All other jurisdictions have introduced, or have committed to introduce, independent processes for monitoring or regulating prices.

The South Australian Government released a position paper on *Establishing the Essential Services Commission* in June 2002. The paper identifies that the role for the Commission in water will be restricted to providing oversight of the quality and reliability of services provided by SA Water. The government has decided that the economic regulation of water will be excluded from the initial functions undertaken by the Commission.

Tasmania

Full cost recovery – urban

In 2001, the Council was concerned that a substantial number of the largest urban water and wastewater businesses were not operating on a commercially viable basis. The Council committed to revisiting progress by all service providers in 2002, when the Government Prices Oversight Commission would have completed its 2000-01 audit of the commercial viability of local government water providers.

The Council also decided that it would look for further information on Tasmania's progress with asset valuation and competitive neutrality costing.

The Tasmanian Government has since provided the Council with the results of the Government Prices Oversight Commission's audit of local government compliance with its urban water pricing guidelines. The focus of the audit is to determine whether local governments have achieved full cost recovery consistent with the CoAG water reform commitments.

Tasmania provided the Council with full cost recovery information that shows:

- 19 of 28 local government water businesses were commercially viable (as defined by the CoAG guidelines) in 2000-01 — an improvement from 14 for 1999-2000;
- 20 of 27 local government wastewater businesses were commercially viable in 2000-01 — an improvement from nine for 1999-2000.

Despite progress toward full cost recovery by local government water service providers, the Council is concerned that a significant proportion of Tasmania's largest service providers is still not commercially viable. Moreover, of the five large local government service providers highlighted in the 2001 NCP assessment, none operated within the bounds of full cost recovery in 2000-01.

The Council has concerns about the level of transparency in the Commission's audit process. The audit reports provide no detail on the actual costing approaches used by local governments. The results of the audit are not publicly available and no formalised mechanism exists to ensure problems identified by the Commission are rectified.

Given that the Commission's role is to make recommendations only and its report is not made public, it is difficult to see how the current process can generate the momentum to ensure reforms are implemented. The Council is looking for jurisdictions to demonstrate that they have processes in place that will continue to achieve the objectives of water reform beyond the life of the Council's assessment process.

In respect of asset valuation methods, Tasmania has developed guidelines for local governments to apply, but the Council is unaware whether local governments are adopting these methods. It is difficult to compare performance across providers and to determine whether CoAG full cost recovery against the bottom of the pricing band is being achieved.

The Commission's audits discuss asset values only in general terms. Further, Tasmania has not provided sufficient information on asset values or asset valuation methods applied by local government water services for the Council to determine whether the approaches used are consistent with the water reform commitments.

The Council has three key concerns with urban pricing in Tasmania.

- Insufficient information has been provided to make a full assessment of the extent of urban pricing reform.
- Based on the available information, a significant number of local governments still appear to have levels of cost recovery outside the CoAG pricing band.
- There is insufficient transparency in the Government Prices Oversight Commission's audit process to deliver ongoing reform.

The Council recognises that Tasmania has a number of mechanisms in place to support the implementation of water reform by local governments, but the Council's assessment is based on whether these programs and processes are producing outcomes. Nevertheless, the Tasmanian Government has committed to working with the Council to resolve concerns about urban pricing. In a letter to the Council, it noted that in the area of urban pricing it would provide by 31 August 2002:

- A report on local governments' adoption of asset valuation methodologies consistent with CoAG guidelines;
- reasons for choosing alternative valuation approaches being adopted; and
- responses to any assessment issues emerging from this information.

Tasmanian also undertook to provide the strategy that will be adopted to improve the rate of progress in cost recovery for those businesses identified in the Government Prices Oversight Commission audit as either under-recovering or over-recovering their costs. The GPOC audit will be made publicly available by 31 August 2002.

Based on this commitment, the Council has decided that it will conduct a supplementary assessment in October 2002 on all issues raised in this section relating to full cost recovery. The Council is expecting significant outcomes from this supplementary assessment, and believes its expectations are warranted given cost recovery reforms for urban water and wastewater services are now three years overdue.

Consumption-based pricing

In 2001, Tasmania provided a report on local government water service providers' progress against the two-part tariff implementation timetable. In that assessment, the Council was satisfied that Tasmania had continued to achieve progress in implementing two-part tariffs. Given that this reform commitment was initially due by the end of 1998, however, the Council decided to review progress again in 2002. For any delays in implementation, the Council would need a robust justification.

Tasmania has now reported significant progress in two-part tariff reform, with 17 of the 18 schemes now having implemented two-part tariffs, in line with targets. The remaining scheme was due to commence two-part tariffs in July 2002. The lack of transparency in costing, price calculations and community service obligations is, however, resulting in concerns on the part of some customers.

In the 2001 NCP assessment, the Council had not been advised whether any service providers levied trade waste charges. The Council considers that significant gains would result from a rigorous investigation of the introduction of trade waste charges where cost effective.

The Council has found that the application of trade waste charges appears to be *ad hoc*. There is a system of managing waste, but no consistent approach to pricing. The Council strongly urges Tasmania to adopt a trade waste charge that captures those customers who pay less than the incremental cost of discharges into local government sewerage infrastructure. The absence of a charging regime that reflects the quantity and/or toxicity of the waste provides scope for nontransparent cross-subsidies and has the potential to undermine the CoAG-endorsed principle of consumption-based pricing.

Water allocations and property rights

In June 2001, the Council considered that Tasmania's system of water property rights met CoAG commitments. The Council noted, however, the cumulative impacts on property rights and the environment of the capture of surface runoff by Tasmanian farm dams. Tasmania was in the process of developing a farm dams policy to be in place by mid-2002. The Council then undertook to review developments with this policy in the 2002 NCP assessment.

There is no statutory requirement to consider the cumulative impacts of farm dams. Tasmania recognised, however, that it needed to develop, in consultation with stakeholders, a policy to manage these impacts. The aim of the policy is to:

- provide a strategic framework to improve the management of the impacts of incremental dam development; and

- guide decision-makers in assessing the cumulative impacts of new dam permit and water licence applications.

The policy will address the farm dams issue in two ways:

- managing the impact that allocations have on high flushing environmental flows; and
- specifying mitigating physical requirements in the building of dams, such as fish passage.

Public consultation on a discussion paper and policy options will be undertaken in July–August 2002 and the policy is now due for completion by September 2002. Interim guidelines are being used until the policy is finalised.

The Council is satisfied that Tasmania is addressing this issue and has implemented appropriate interim measures while developing a final position. The Council considers that the development of this policy is very important, especially given that the Tasmanian Government has established a \$10 million program for water development.

Provision for the environment

The Council noted last year that the South Esk and Meander rivers could be classified as overdeveloped during the summer months. The Council undertook to review the management plans for these rivers to determine whether Tasmania has addressed the issue of allocations for the environment over this critical period.

The Council also noted that the processes for determining environmental water requirements have been slower than Tasmania anticipated. At the time of the 2001 NCP assessment, no water management plans had been developed. While Tasmania was confident that water management plans would be completed by 2005, the Council undertook to reassess this year of Tasmania's progress against the implementation program.

Tasmania has made substantial progress in identifying environmental flow requirements in river systems. The State is currently finalising the Great Forester Water Management Plan, which will be the first such plan to be completed. The environmental flows work was completed and the catchment was deemed to be a good model for the water management planning process.

Tasmania advised that there had been a great deal of opposition to the Great Forester draft plan on the grounds that it would have a severe economic impact on water users. An independent analysis of the impact of the proposed water flow regime in the draft plan was accordingly commissioned.

This consultancy concluded that the increase in environmental flows would reduce the amount of water available to irrigators and potentially reduce

agricultural production by \$2.3 million per year at the farm gate level and have flow-on losses of a further \$4.7 million and 22 jobs at the State level.

These findings have resulted in Tasmania announcing a review of the Great Forester Plan and a proposed change in the method for developing water management plans in general. As a result, more time and resources than anticipated have been needed for negotiations on the draft Great Forester and other water management plans. The environmental water provisions contained in the draft plan are therefore to be reviewed in light of the study. A working group of major stakeholders has been formed to further consider the plan.

As a result of the controversy surrounding the release of the original draft Great Forester Water Management Plan, some other catchments across the State have shown an unwillingness to engage in developing water management plans until a clearer picture emerges of the Government's direction in reviewing the Great Forester Plan.

The Council has reviewed the consultants report and has some concerns with it and the possible direction Tasmania may be taking in relation to the development of water management plans. The Council is concerned about the precedent that may be created by the plan for the circumstances in which such socio-economic assessments are used. While such studies are a necessary input to the decision-making processes and may help determine transition paths to reform, attempts to use socio-economic arguments to put off or relegate the legitimate needs of the environment could raise a question about Tasmania's compliance with the environmental obligations of the CoAG water reforms.

The Council is highly concerned at the emergence of this issue across a number of jurisdictions, namely, the use of socio-economic studies based on protecting current consumption putting off or watering down the legitimate needs of the environment, resulting in ongoing environmental degradation.

The Council also does not accept the argument that the science for the environment has to be perfect before environmental provisions are decided. All governments have committed to the precautionary principle. This states that in order to protect the environment, a precautionary approach should be widely applied by States in setting allocations according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing measures to address environmental degradation.

This assessment issue has not been satisfied. Nevertheless, the Great Forester Plan is still a draft and the Council needs to ascertain the extent of the proposed changes to it. Given the precedent value of the Plan, the Council is of the view that another examination needs to occur in the 2003 NCP assessment to consider the final plan any other plans, such as the proposed Meander River plan, as well as the direction Tasmania proposes to take to meet its CoAG obligations. The Council, however, does not want to see

environmental water provisions and the water management plan process diluted by the inappropriate use of socio-economic studies.

Environment and water quality – integrated catchment management

In 2001, the Council found Tasmania had met the minimum NCP requirement against this reform commitment. At that time, the major relevant development was a proposal to prepare a State Natural Resource Management Strategy to coordinate the development of catchment management plans at the regional level. Given the importance of the Strategy, the Council undertook to review developments this year.

Following extensive consultation with stakeholders, the Tasmanian Government finalised and endorsed the Tasmanian Natural Resource Management Framework in February 2002. The framework covers issues such as administrative arrangements at State and regional levels, proposed legislation, natural resource management principles and priorities, and integration with relevant statutory and nonstatutory instruments.

Tasmania is on track to have regional strategies completed and in place by mid-2003. The Council is satisfied that Tasmania has met its outstanding commitment.

Progress report issue: new rural schemes – the Meander Dam

The 2001 State Budget provided \$10 million to finalise a Water Development Plan to recommend the construction of new water storages across the State. One of the aims of the plan is to support the Government's objective of doubling the value of Tasmania's primary production over the 10 years to 2008. The 2002 State Budget allocated an additional \$4.5 million to progress water development in partnership with private enterprise. The plan was finalised and released in August 2001.

The Tasmanian Government subsequently announced its intention to proceed with the design of the Meander Dam project, 50 kilometres south west of Launceston. The 43-gigalitre dam will inundate 332 hectares of land. The dam has been designated under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

A decision on whether the Meander Dam will proceed cannot be made until 2 August 2002 at the earliest, when all environmental clearances (including those by the Commonwealth Government) are obtained. If all approvals for the dam are forthcoming, Tasmania intends to let the contract for design and construction in August 2002 and aim for construction to be completed by August 2004.

In responding to the consultants report that shows the dam is not financially viable, Tasmania advised the Council that further work will be done to demonstrate the *economic viability* of the dam proposal, including the additional benefits the dam will generate for environmental flows and the public good. The Government is aware of its obligations in terms of CoAG water reform to show that any new investment is economically viable and ecologically sustainable.

A number of submissions expressed concern about the Meander Dam development. The Council will consider and assess these issues in a future NCP assessment if the Tasmanian Government decides to construct the dam.

Based on the above timeframe, the development of the Meander Dam and all issues raised by submissions may be a significant 2003 NCP assessment issue.

Australian Capital Territory

Full cost recovery – urban

ACTEW's (the ACT's electricity and water provider) dividend to the ACT Government in 1999-2000 amounted to the whole of ACTEW's earnings in that year. The previous year's dividend payment also accounted for all of ACTEW's earnings.

Last year, the Council noted its concern that limited reserves were being retained within ACTEW for future investment, including to make provision for population growth or unexpected capital costs, such as a facility breakdown. In such circumstances, ACTEW would have to increase its debt or the Government would have to provide an injection of capital.

In its current assessment, the Council considered whether the ACT's dividend policy is consistent with the CoAG reform commitment that requires dividends, where paid, to reflect commercial realities and simulate a competitive market outcome.

The ACT argues that dividend policy should be driven by the objective of a competitive capital structure. ACTEW's planned debt ratio for the end of 2001-02 is 38 per cent and has been much less in past periods. The 100 per cent dividend policy has assisted in moving ACTEW's capital structure closer to an efficient level based on industry practice. The ACT also argues that ACTEW has numerous options for financing changes to its capital base.

The Council remains concerned about ACTEW's dividend payout ratio of 100 per cent of after tax profits. There are, however, some mitigating factors relevant to the Council's assessment. For instance, the governing legislation and licences for ACTEW set appropriate standards (including investment in replacing, upgrading and maintaining the infrastructure needed to provide

services at those standards) and enforceable penalties for any breach of a service standard. Also, the ACT is using high dividend payouts as a means of capital restructuring. Whilst this practice is not ideal because of its lack of transparency, it is one way of raising ACTEW's debt ratio from the low levels of the past.

Given these considerations, the Council is satisfied that the ACT's current dividend policy is not inconsistent with the CoAG commitment. There is, nevertheless, a question whether full distributions should continue in the longer term and once ACTEW's debt ratio is in line with the market average. The Council will revisit this issue in 2003 when a broad review of dividend policy of all jurisdictions will take place.

Consumption-based pricing

In 2001, ACTEW did not levy trade waste charges. A control was available through the need to apply to ACTEW for permission to discharge trade waste into the wastewater system, and ACTEW could place conditions on the application's approval.

The absence of a charge reflecting both the quantity and quality of the waste provides scope for nontransparent cross-subsidies and has the potential to undermine the CoAG-endorsed principle of consumption-based pricing.

The ACT Government has since reported that ACTEW had previously reviewed the need for such a charge and found it would have no significant impact. This stems predominantly from the absence of industry with substantial discharges in the ACT. ACTEW's trade waste approvals system, however, is now operational and, in a few instances, ACTEW has applied a specific charge tied to the volume and toxicity of the discharge.

The Council agrees with the ACT view that the Government needs to properly evaluate the merits of a charge. The ACT Government has committed to reviewing the merits of a systematic charging arrangement for trade waste. The time period suggested for completing this task is 18 months. Such a period, however, would extend beyond the 2003 NCP assessment, when full implementation of urban pricing reform is required.

To meet the reform commitments for the 2003 NCP assessment, the Council expects the ACT Government to have independently analysed and, if cost effective, developed systematic charging arrangements for trade waste, and have a clear implementation strategy by June 2003.

Northern Territory

Provision for the environment

In 2001, the Council found that the Northern Territory continued to set contingency allocations for the environment in the absence of a scientific basis for determining environmental water requirements. The Northern Territory advised at that time that five major research projects on environmental flows in the Daly and Douglas rivers were expected to report their findings in 2002. This is the only river system in the Northern Territory where significant levels of development are planned. The Council noted that it would monitor developments in this area, including the research results, to ensure provision of water for the environment is being adequately addressed.

The research projects are expected to be finalised by July 2002, and recommendations about specific environmental water requirements will then be made. Northern Territory agencies will consider these recommendations by the end of September 2002. Public workshops will be held in November–December 2002.

The Northern Territory advised in 2001 that unless the findings of the projects show the existing environmental allocations are significantly inadequate, the projects will not have an impact on existing allocations. These contingency allocations have been set on a conservative basis. Any variations to environmental water requirements as a result of the projects would occur as part of the five-year review of the operation of a water allocation plan.

The Council notes that Environment Australia endorsed the approach taken in a project selected from the five as suitable to the circumstances of the Northern Territory. The Council has reviewed the findings of the project and is satisfied that the Northern Territory is meeting its outstanding 2001 NCP commitment.

Public consultation

In 2001, the Council found that the Northern Territory was beginning to develop community materials on the water reform process and water issues generally, including introducing a range of materials for schools. The WaterWise NT program was piloted in 2001 and rolled out in Alice Springs. The aim was to introduce the program progressively to other regional centres.

The primary objectives of WaterWise NT are to raise awareness of the importance of water to communities and natural ecosystems, to improve public awareness of the various impacts of water use on the environment, to introduce water saving programs, and to promote water conservation principles. Official recognition as a WaterWise School is granted and schools receive accreditation for actively contributing to each of the program's

objectives. Public education activities in Alice Springs have been complemented by ongoing consultation with irrigators in the Katherine and Ti Tree regions regarding the Northern Territory's interim policy on environmental flows.

The Council is satisfied that the Northern Territory has made sufficient progress to address this assessment issue.

Murray-Darling Basin Commission

Pricing and cost recovery – rural

The Murray–Darling Basin Commission (MDBC) recovers from its member Governments the full cost of constructing, operating, maintaining and renewing assets. These arrangements ensure the costs borne by the States relate to the level of service received from River Murray Water, the MDBC water business. River Murray Water recovers 75 per cent of the cost of asset refurbishment and replacement from the States.

In 2001, the Council identified two issues with the current MDBC approach to cost recovery and pricing, to be reconsidered in the 2002 NCP assessment:

- the outcomes of the independent audit of cost sharing arrangements, including the issue of transparency in asset management; and
- consumption-based pricing.

The MDBC Ministerial Council considered in April 2002 the recommendations of an independent review of pricing arrangements. The review recommended changes to the current approach to planning and financing capital investment. It also concluded that the current cost-sharing arrangements developed by River Murray Water are appropriate. It argued that there would be little gain, at this stage, from moving to consumption-based pricing for River Murray Water.

The Council considers that the review satisfactorily covered all the pricing issues identified for consideration in the 2002 NCP assessment. The recommendations contained in the review, if implemented, would effectively address these issues. The Ministerial Council has endorsed in principle these recommendations and directed the Commission to develop an implementation program.

The Ministerial Council will not consider the implementation program until November 2002, so the Council cannot confirm how the MDBC will implement the recommendations. Nevertheless, the Council concludes that the MDBC has met its 2002 reform commitments. If the MDBC decides not to adopt some recommendations, it will need to provide a clear public

justification of its alternative approach and demonstrate that the alternative is consistent with CoAG water reform commitments.

The Council notes that the States have very different policies on passing on River Murray Water costs to water users. In New South Wales and Victoria, rural water users are required to pay a significant proportion of the costs passed on from River Murray Water. In contrast, South Australia does not pass on these costs to irrigators. This issue is not one for the MDBC, but the Council will need to consider it further in 2004 when assessing each State's approach to rural water pricing.

Trade

The MDBC has been running a pilot project on interstate trading since 1998. In its 2001 NCP assessment, the Council recognised that the pilot project was a significant advance in interstate trade in Australia. There were constraints, however, on the expansion of the pilot to different regions and types of water right. The Council undertook to reassess in 2002 progress in resolving the property rights issues associated with trade and developing mechanisms to facilitate interstate trade.

The MDBC has not progressed the pilot project. It is, however, focusing on developing water accounting systems to allow it to track trade, develop exchange rates along the river and between different water rights, and adjust the State caps in response to interstate trade. These efforts will allow the MDBC to extend trading across the Basin.

The MDBC, moreover, has now committed at the Ministerial Council level to adopt comprehensive interstate water trading and placed priority on implementing trading arrangements. The Council considers that full interstate trading should be implemented as soon as possible and that the systems that support trading should be efficient and effective. Such systems need to: allow for trading between different water rights in different States; account for the environmental consequences of trade; and facilitate timely trading, including providing access to State-based water registry information in a way that facilitates interstate trades.

The Council concludes that the MDBC has met its 2002 commitments. It expects, however, significant progress in the development and implementation of trading arrangements between now and the next full assessment of interstate trading in 2004.

Progress report issue: water allocations and the environment

The cap on diversions from the Murray–Darling Basin continues to make an important contribution to ensuring environmental flows in the river system.

It is an essential first step in establishing management systems to achieve healthy rivers and sustainable consumptive uses. It represents a balance between the significant economic and social benefits that have been obtained from developing the basin's water resources on one hand and seeking to improve the environmental health of the river system on the other.

The MDBC Ministerial Council formally adopted the cap in August 2000 as part of the Murray–Darling Basin Agreement. Under the Agreement, States' water allocations are independently audited each year and any breaches of the cap are declared by the MDBC and referred to the Ministerial Council.

The Independent Audit Group's 2000-01 review of cap implementation (MDBC 2002) has been completed. The transparency in reporting cap compliance is resulting in pressure on those communities that are over the cap, and also on their governments. When assessing individual compliance with the cap, the Council will continue to raise any review concerns with jurisdictions. The Council will consider the implications for NCP payments where jurisdictions persistently breach the cap and do not rectify those breaches in later years.

The Audit Group found that Queensland has yet to complete its water resource planning process (which will define the cap in Queensland), although the moratorium on the construction of works has slowed water use development.

It also found that the cap has been exceeded in the Namoi Valley, the Barwon/Darling/Lower Darling Valleys and the Lachlan Valley. New South Wales is to address this issue and report to the next MDBC Ministerial Council meeting on action taken to bring diversions into balance, including the period over which this correction will occur.

Progress report issue: provision for the environment

The Council recognises that the complexity of the issues, as well as the number of governments involved, has led to progress on environmental flows for the River Murray being slow. Given the national significance of this issue, however, the Council is expecting tangible progress in future NCP assessments.

The Council expects, in particular, that agreement on and implementation of environmental allocations for the River Murray will be in place by 2005. The MDBC Ministerial Council's decision at its October 2003 meeting on flow options for the River Murray should provide a timeframe in which to deliver environmental flows.

Under the terms of the Ministerial Council decision, the MDBC will develop a business case for the recovery of 350, 750 or 1500 gegalitres of environmental flows for the River Murray. The development of the plan will consider issues of equity, property rights and water trading. A reduction in consumptive use

of 750 gigalitres would equate to about 10 per cent of allocation and 7 per cent of use. It would increase the median flow at the river mouth by about 20–25 per cent to a total of 35 per cent of the river’s median natural flow.

Importantly, in deciding to proceed with consultation on the three environmental flow options, the Ministerial Council effectively ruled out the ‘no allocation’ option.

2 New South Wales

Outstanding assessment issues

Pricing and cost recovery

Consumption-based pricing

Outstanding issue: Review the level of ringfencing of bulk water services provided by the Hunter Water Corporation, Gosford and Wyong

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(c)

Background

In the 2001 NCP assessment, the Council had not received information on bulk water services offered by Hunter Water Corporation, Gosford City Council and Wyong Shire Council. In particular, it was not known whether these bodies provided bulk water services and, if so, whether there was sufficient separation from their retail service businesses to enable them to calculate an efficient bulk water price (that is, there needs to be an internal capacity to price bulk water efficiently).

The identification of bulk water costs, and charging for these costs at an appropriate rate and in an appropriate manner, can be a catalyst for change in the water industry, including through increasing competition in the supply of water. Identification increases transparency and the efficiency of pricing and resource allocation. It also assists in identifying cross-subsidies between customer classes.

For the 2002 NCP assessment, the Council is reviewing bulk water services provided by Hunter Water Corporation, Gosford City Council and Wyong Shire Council. Where such services are provided, adequate levels of ringfencing should be in place.

New South Wales arrangements

New South Wales reports that Gosford City Council and Wyong Shire Council do not have bulk water supply businesses, so the ringfencing issue does not arise for these councils.

The Hunter Water Corporation supplies bulk water services to Dungog Council and Mid Coast Water. Dungog Council and Mid Coast Water are ranked 10th and 250th respectively in Hunter Water Corporation's customer base. Dungog Council is charged a location based price that is discounted, as it does not draw on any reticulation infrastructure.

All large volume users of water supplied by Hunter Water Corporation (including Dungog Council and Mid Coast Water), are charged prices determined by the Independent Pricing and Regulatory Tribunal. These charges are consumption-based and structured as two-part tariffs.

Discussion and assessment

This issue of ringfencing bulk water services arose in the 2001 NCP assessment due to insufficient information. In light of additional information provided by New South Wales, the Council considers that the outstanding 2001 NCP assessment issue has been addressed.

Consumption-based pricing

Outstanding issue: Significant progress (primarily by Tweed Shire), in reviewing the cost effectiveness of two-part tariffs, winding back free water allowances, and a commitment to action if reforms are cost effective.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

In the 2001 NCP assessment, the Council had concerns about the rate of progress towards consumption-based pricing by some nonmetropolitan urban water service providers, and particularly with Tweed Shire. At the time, Tweed Shire had a 250 kilolitre free water allowance which increased with consumption above the minimum amount. Many customers, therefore, did not face a volumetric charge for water. Tweed Shire had not conducted a review to demonstrate the cost effectiveness of implementing two-part tariffs.

The New South Wales Government undertook to continue to approach Tweed Shire with a view to a more appropriate pricing mechanism being adopted.

The fee setting cycle meant that, at the time of the 2001 NCP assessment, charges for 2001-02 had been set. Further negotiation was taking place in advance of the next management planning cycle and public exposure of the intended pricing was not required until March 2002. The pricing reforms could be either a further reduction of the free water allowance or a move to a two-part tariff.

For the 2002 NCP assessment, the Council is to assess the progress of nonmetropolitan urban water service providers (and primarily Tweed Shire), in reviewing the cost effectiveness of two-part tariffs, winding back free water allowances, and action if reforms were found to be cost effective.

New South Wales arrangements

New South Wales reports that nonmetropolitan urban water service providers may be divided into three categories. These are:

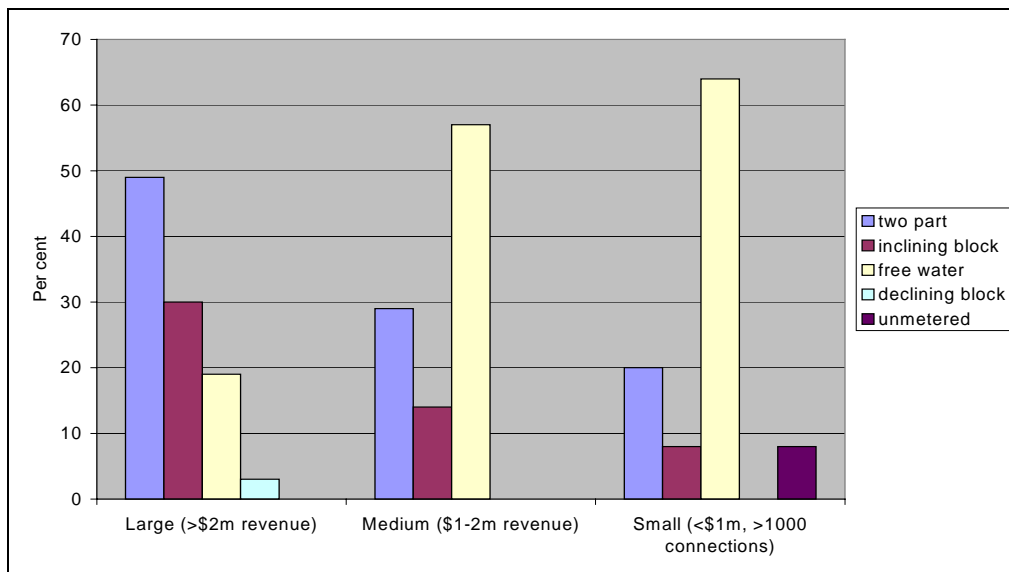
- large providers (those with annual revenues of more than \$2 million);
- medium providers (those with revenues of \$1–2 million); and
- small providers (those with revenues of less than \$1 million).

New South Wales has given priority over the past 12 months to encouraging noncomplying large nonmetropolitan urban providers to move to two-part tariff pricing. The large nonmetropolitan urban providers targeted include Tweed Shire Council, Orange City Council, Parkes Shire Council, Ballina Shire Council, Kempsey Shire Council and Griffith City Council.

For the smaller nonmetropolitan urban providers, New South Wales has committed to continuing its policy of encouraging the move to two-part tariff pricing, where cost effective. New South Wales will review the outcomes of this process in the first quarter of 2003.

New South Wales provided the Council with a report titled *NSW Water Supply and Sewerage Performance Comparisons 2000/01*. Whilst this report contains considerable information of interest to the Council, information outside the scope of this assessment will not be considered in detail until the 2003 NCP assessment.

The proportions of local government water providers using various tariffs arrangements have been separated into size categories suggested by New South Wales and summarised (using performance report material) in chart 2.1.

Chart 2.1: Tariffs in use – water service providers in New South Wales, 2001-02

Source: Department of Land and Water Conservation (2002, unpublished)

Chart 2.1 indicates that for 2001-02 approximately 49 per cent of large nonmetropolitan water service providers (eighteen of 37 providers) were using a two-part tariff for customer water charges. A further 30 per cent (eleven providers) were using a tariff structure that contained an inclining block, 19 per cent used a free water allowance, and 3 per cent were reported as using a declining block tariff.

Chart 2.1 indicates that for the medium sized nonmetropolitan water service providers 29 per cent (eight of 28 providers) were using two-part tariffs, 14 per cent (four providers) used inclining block tariffs, and 57 per cent (sixteen providers) used a free water allowance.

For the smaller nonmetropolitan urban water providers 20 per cent (five of 25 providers) used two-part tariffs, 8 per cent (two providers) used an inclining block tariff, 64 per cent (sixteen providers) used free water allowances, and 8 per cent (two providers) were unmetered.

The total number of the above nonmetropolitan urban water suppliers that incorporated a free water allowance as part of their tariff structure in 2001-02 was 39 providers. Attachment 1 indicates the providers using free water allowances during 2001-02 and the volumes of free water allowances offered.

New South Wales has received written notification from Ballina Shire Council, Tweed Shire Council, Forbes Shire Council, and Parkes Shire Council confirming the elimination of across the board free water allowances and the implementation of full usage-based tariffs from 1 July 2002. Orange City Council has eliminated its general water allowance of 350 kilolitres per

annum.¹ Bathurst Council implemented a fixed annual charge and an inclining block tariff during 2001-02.

Kempsey Shire Council and Griffith City Council are yet to advise the Government of their pricing policy intentions for 2002–03, but have confirmed that a cost-benefit analysis of two-part tariff pricing has been, or is being, conducted. Kempsey is undertaking a much larger review of water services and, hence, there is a delay in considering pricing issues.

The remaining local governments are progressively considering the cost effectiveness of two-part tariffs in the context of wider reviews looking primarily at the performance of their water service assets. The New South Wales Government will report on whether these reviews have included the elements of full cost pricing by the end of 2002.

New South Wales will continue to encourage all remaining nonmetropolitan urbans (including those with revenues of less than \$1 million) to adopt full usage based pricing policies and to adopt two-part tariffs, where cost effective.

The summarised data from chart 2.1 indicates that during 2001-02 31 nonmetropolitan urban water providers (in the above three categories) were applying two-part tariffs and another twelve were applying modified full usage tariffs. In addition, a further five small utilities with under 1000 connections have simple two-part tariffs.

In total, New South Wales has advised that 59 of the 112 non-metropolitan urban water providers have a pay-for-use tariff with no water allowance. Of these, 37 have a simple two-part tariff, 21 have an inclining block tariff and one has a declining block tariff. Some 48 non-metropolitan providers had a water allowance and five providers did not have domestic water metering.

The Minister for Land and Water Conservation has released a brochure for local water utilities on best practice *Water Supply, Sewerage and Trade Waste Pricing*, with a view to moving remaining medium sized councils and smaller councils (where it is cost effective) to full usage based pricing. The Minister has also arranged for the preparation of software and pricing guidelines for New South Wales water utilities. The Department of Land and Water Conservation will be conducting a series of regional training workshops for utilities on best practice *Water Supply, Sewerage and Trade Waste Pricing* from October to December 2002.

Discussion

The Council's focus for the 2002 NCP assessment is whether Tweed Shire, one of the State's largest nonmetropolitan urban water providers, has

¹ A 150 kilolitre per annum allowance has been introduced for landowners who take responsibility for the maintenance of nature strips on public land.

conducted a robust assessment of the cost effectiveness of two-part tariffs. New South Wales has reported that Tweed Shire is committed to eliminating free water allowances and the implementation of full consumption-based tariffs from 1 July 2002. The Council is satisfied that this issue has been met resolved for this assessment. Further, New South Wales continues to make progress with a number of the larger local councils on this issue.

In broader terms, however, New South Wales reports that 59 of 112 nonmetropolitan urban water providers are applying pay-for-use charging, that is, two-part, inclining block or declining block tariffs. The Council notes that this is the same result reported in the 2001 NCP assessment. At that time, the Department of Local Government forecast 69 local governments would adopt two-part tariff regimes for 2001-02. While a number of local governments² have provided commitments in this assessment to implement reform, there are still a significant number of non-metropolitan urban providers who are yet to do so.

Assessment

The Council is satisfied that New South Wales has made progress on the outstanding 2001 assessment issue, which required progress, primarily in relation to Tweed Shire Council, in reviewing the cost effectiveness of two-part tariffs and winding back free water allowances. Tweed Shire Council and other large councils, which had previously not moved to full usage based pricing, have provided commitments which satisfy these requirements.

The Council, however, notes that a significant number of councils with more than 1 000 connections are yet to satisfy the CoAG commitment in relation to two-part tariffs, which was due for completion by the end of 1998. The Council expects this commitment to be virtually complete by the time of the 2003 NCP assessment. In particular, by the time of the 2003 NCP assessment the Council would expect all remaining nonmetropolitan urbans with more than 1000 connections to:

- have made a commitment to introducing two-part tariffs or adopting other usage based pricing policies which meet the CoAG requirements³ within an appropriate timeframe where cost effective;
- provide copies of any cost effectiveness studies where the provider chose not to implement reform; and

² For example, Ballina, Bathurst, Bombala, Coolah, Forbes, Parkes, Richmond Valley and Tweed Council. Orange City Council has adopted two part tariff pricing with a reduced allowance for landowners responsible for nature strip maintenance.

³ The Council will look at the structure of these other tariff arrangements in 2003 to ensure they are consistent with CoAG commitments.

- have significantly reduced the use of free water allowances and property based value charging.

Because of the low rate of compliance among smaller local governments, it is the Council's view that New South Wales needs to pursue a strategy to improve performance of these councils over the next 12 months. The Council notes in this regard that New South Wales has taken positive action by releasing the *Water Supply and Trade Waste Pricing* brochure. In order to meet the requirement to have implemented two-part tariffs by June 2003, New South Wales will need to implement such a strategy by the end of 2002 at the latest, in order for local governments to be in a position to make the necessary commitments by June 2003.

Consumption-based pricing – trade waste

Outstanding issue: For nonmetropolitan urban service providers, progress in the use of trade waste charges and winding back property value based charges.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

The Council has recognised that, in most cases, volumetric charging for wastewater will not be cost effective. For large dischargers or businesses with high strength waste, however, volumetric pricing should be considered. In the 2001 NCP assessment, the Council found that trade waste charges were not extensively used in New South Wales and the absence of trade waste charges could lead to nontransparent and inefficient cross-subsidies. The Council undertook to re-assess this issue in the 2002 NCP assessment.

New South Wales arrangements

The discharge of trade waste into council sewers is regulated under the *Local Government Act 1993* and the *Local Government (Approval) Regulation 1999*. Any discharges require the approval of councils and the concurrence of the Department of Land and Water Conservation.

In determining whether to impose trade waste charges, local councils consider the extent to which discharges are likely to impose costs on the system. In general, councils will levy waste charges when trade waste discharges from commercial or industrial premises reach certain threshold levels. New South Wales has stated that the discharge of waste will impose costs that should be recovered.

The Minister for Land and Water Conservation has released a brochure for local water utilities on best practice *Water Supply, Sewerage and Trade Waste*

Pricing. The brochure complements existing materials including interactive modelling software to support business planning. It focuses on water supply, sewerage and trade waste pricing, and is intended to comply with the CoAG pricing guidelines. The Council was provided with a copy of this brochure. The brochure refers local governments to new water supply, sewerage and trade waste pricing models that have been developed as part of the interactive modelling software. Pricing guidelines are being finalised and will shortly be released with the pricing software to the water utilities. Revised state guidelines for council management of liquid trade waste discharges to sewerage systems have also been provided by the Department of Land and Water Conservation.

Most nonmetropolitan urban providers have reduced or eliminated the use of property based rates from water service revenues. The pricing brochure referred to above and guidelines recommend the removal of charges based on land value from all water supply and sewerage tariffs.

Discussion and assessment

The Council has found the absence of trade waste charges reduces the incentive for people to minimise waste and can lead to nontransparent and inefficient cross-subsidies between large and small dischargers. The Council notes the recent release of new guidelines for the operation of trade waste sewerage services and streamlined administrative arrangements for trade waste regulation in New South Wales. However, evidence that thresholds are being set in a manner that promotes efficiency was not provided by New South Wales.

The new pricing guidelines for water supply, sewerage and trade waste are an advance in the processes used by New South Wales. The Council, however, ultimately needs to assess the outcomes of reform. For this reason, the Council will revisit the extent of adoption of trade waste charges in the 2003 NCP assessment for urban pricing. New South Wales has made sufficient progress in winding back property value based charges for nonmetropolitan providers for this assessment.

Consumption-based pricing

Outstanding issue: For Sydney Water Corporation, progress in eliminating property values in determining water charges

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background and New South Wales arrangements

In 1996, Sydney Water Corporation eliminated domestic property value based charges for water services and commenced phasing out the use of property values for commercial water charging.

The 1999 NCP assessment reported that remaining property value based tariffs for Sydney Water Corporation were estimated to be \$61 million and would be eliminated by 2002. In the 2001 NCP assessment, New South Wales provided Independent Pricing and Regulatory Tribunal data that revenue from property based tariffs was projected to decrease to \$12 million by 2003.

Independent Pricing and Regulatory Tribunal determinations for the Sydney Water Corporation have progressively reduced property value based charges for wastewater and stormwater services, and it is likely that this will continue. The next determination for Sydney Water Corporation is expected in June 2003. New South Wales states that it expects there would be a further decline in the use of property values for pricing in the next determination.

Discussion and assessment

The Council is satisfied that the 2002 NCP commitment has been met. New South Wales is making progress on the elimination of property based values by Sydney Water Corporation in the determination of water and wastewater charges.

Full cost recovery – rural price paths

Outstanding issue: New South Wales is to provide guidance on price paths for achieving full cost recovery for rural water.

Next full assessment: The Council will next assess rural pricing reforms in 2004.

Reference: Water reform agreement, clauses 3(a) and (d)

Background

In the 2001 NCP assessment, the Council concluded that New South Wales had not formally met its commitment to provide a timetable for when rural schemes will reach full cost recovery.

The commitment to adopt rural water supply pricing regimes based on the principle of full cost recovery is made under part 3(d) of the CoAG water agreement. The commitment in this agreement was further defined at the tripartite meeting in January 1999, where general pricing principles for rural water supply were agreed. The tripartite meeting required the Council to

assess jurisdictions as having complied with CoAG full cost recovery commitments where they:

- have achieved full cost recovery; or
- have established a price path to achieve full cost recovery beyond 2001 with transitional community service obligations made transparent; or
- for schemes where full cost recovery is unlikely to be achieved in the long term, that the community service obligation required to support the scheme is made transparent; and
- have made cross-subsidies transparent.

The Council was not provided with a price path in the 2001 NCP assessment, The Council therefore committed to re-assess the issue of a price path for achieving rural full cost recovery in the 2002 NCP assessment.

New South Wales arrangements

In December 2001, the Independent Pricing and Regulatory Tribunal announced caps on annual price rises for bulk water supplied by State Water, a ringfenced business unit within the Department of Land and Water Conservation.

The Tribunal capped price increases at 15 per cent a year (plus CPI) for bulk water from regulated rivers, while charges for water from unregulated rivers and groundwater will rise by no more than 20 per cent each year (plus CPI). Because the current levels of cost recovery vary between rivers, many users (particularly on regulated rivers), are estimated by the Independent Pricing and Regulatory Tribunal to face real price increases of 8.5 per cent or less for full cost recovery to be achieved. The new price structure operates from October 1, 2001 until June 30, 2004, and allows State Water to extend its two-part tariff (fixed charges plus a variable charge based on usage) to unregulated rivers. As both prices and the level of cost recovery are much lower for users of water from unregulated rivers and groundwater, the Tribunal felt steeper increases would be inappropriate for these systems.

The Independent Pricing and Regulatory Tribunal estimated that the proposed maximum prices would result in an increase in the proportion of recovered costs from 61 per cent in 2000-01 to 74 per cent in 2003-04. Table 2.1 shows the overall level of cost recovery across the valleys varies significantly, from 96 per cent in the Murray Valley to 19 per cent in the South Coast by 2003-04.

Table 2.1: Percentage of costs recovered by valley (all water sources)

<i>Region</i>	<i>2000-01 (per cent)</i>	<i>2003-04 (per cent)</i>
Barwon Region (Border, Gwydir, Namoi, Peel)	66	82
Central West (Lachlan, Macquarie)	81	89
Far West	20	33
Murray	77	96
Murrumbidgee	78	88
North Coast	12	20
Hunter	30	45
South Coast	12	19
Total NSW	61	74

Source: Independent Pricing and Regulatory Tribunal (2001)

Table 2.2 shows levels of cost recovery are far higher for regulated rivers than unregulated rivers or ground water in all valleys except the North Coast. The proposed price increases will result in full cost recovery on the majority of regulated rivers by the end of the three year determination period. Most of the required annual price rises for regulated rivers to reach the full cost recovery objective are significantly lower than the 15 per cent maximum. Levels of cost recovery will improve for all sources between 2000-01 and 2003-04 as shown in table 2.2.

Table 2.2: Percentage of allocated costs recovered from tariffs in 2003-04.

<i>Region</i>	<i>Regulated Water (per cent)</i>	<i>Unregulated Water (per cent)</i>	<i>Ground Water (per cent)</i>
Border	100	42	
Gwydir	100	89	Barwon region
Namoi	100	43	37
Peel	55	Included in Namoi	
Lachlan	100	28	Central West
Macquarie	107	71	35
Far West	No regulated rivers	33	34
Murray	100	33	56
Murrumbidgee	100	71	28
North Coast	11	21	22
Hunter	53	31	21
South Coast	35	20	8
Total	94	31	32

Source: Independent Pricing and Regulatory Tribunal (2001)

There are several reasons for the continuing low level of cost recovery in some valleys. In the Far West, there are no regulated rivers, and current prices for unregulated water and ground water in this area are low relative to costs. In the coastal valleys, most of the bulk water used is from unregulated rivers

and groundwater with current prices well below the management costs. In addition, current prices on coastal regulated rivers are low relative to costs, due to relatively few extractors to share the costs of infrastructure.

The Independent Pricing and Regulatory Tribunal is of the view that it is possible that the costs on some coastal valley rivers may result in a need for a significant community service obligation to support these valleys. This approach is consistent with the CoAG principles for full cost recovery in the medium to long term. The price increases translate into an increase in State Water's total revenue of approximately \$6.9 million over the determination period. However, the Tribunal's proposed prices still result in a shortfall in State Water's revenue of \$16.12 million in 2003-04. Whilst the largest portion of revenue comes from regulated river tariffs, the bulk of State Water's revenue shortfall comes from tariffs for unregulated water (\$7 million) and groundwater (\$6.4 million).

Submissions

The Council has received a number of submissions that raise rural water pricing issues.

The New South Wales Irrigators Council (2002, submission 12) argues the irrigation industry has serious concerns about the impacts of the current bulk water price determination. It has called on the Council to ascertain whether the existing determination is appropriate in terms of legacy costs, impactor pays etc. The submission also argues for a formal process to identify relevant instances of community service obligations, otherwise community service obligations will never be a part of pricing. It is asserted that there is a conflict of interest if the government is both identifying and paying for community service obligations and unless there is a formal and transparent process, no community service obligations are likely to be paid.

Robert Caldwell (2002, submission 5), an irrigator in the Lachlan Valley, argues the basis for full cost recovery is flawed, and full cost recovery should not be fully attributable to irrigation as some costs are sunk because dams were constructed by governments for social reasons. Other issues raised include:

- Public good and cost sharing – irrigators are being asked to pay far in excess of their full share (all research costs, for example). He argues irrigators only divert 13–19 per cent of their allocation with the remainder being for environmental flows. He believes 50 per cent of costs should be attributed to the public good and irrigator charges reduced accordingly.
- Fixed charges form two-thirds of Mr Caldwell's water bill. Mr Caldwell believes this is contrary to CoAG pricing guidelines. In some years the Department of Land and Water Conservation will be charging for delivering no water as general security licences can receive zero allocations. It is his view that charges should be on a usage basis only.

- Full cost recovery and moving water to highest value uses will completely reorganise allocations in the Lachlan within a few years, with resources being sold to 10–20 large cotton growers and this will have socio-economic impacts for the town of Forbes.

The World Wide Fund for Nature (2002, submission 13) raised the following rural water pricing issues in New South Wales. Price paths for rural full cost recovery should be completed, and full costs should include an appropriate return to capital and an allowance for dividend payments. Valleys that are unable to recover costs should be identified, subsidies provided, and transparently reported. Continued supply to these valleys should be justified on a cost-benefit analysis including externalities.

The use of beneficiary versus impactor pays is significant for cost recovery. The World Wide Fund for Nature argues it would be helpful for the Council to document the use of these principles by different States.

The World Wide Fund for Nature raised the following issues with the Independent Pricing and Regulatory Tribunal for the Council to consider:

- appropriate levels of natural resource management costs for the Department of Land and Water Conservation's bulk water management need to be determined on the basis of best science and in consultation with environment groups. Further progress is needed to define a method to allocate an appropriate share of natural resource management costs to users;
- the natural resource management costs of other agencies should be included in the cost base for pricing decisions;
- socio-economic studies should be done to understand the impact of increased prices on the community and structural adjustment; and
- the potential for using revenue from an environmental tax to fund structural adjustment in light of full cost pricing needs to be investigated.

The Council, it was argued, must ensure a New South Wales price path determines a full cost recovery path including these factors. The submission asserts that the Department of Land and Water Conservation and State Water are under recovering funds to manage environmental aspects given the findings of the State of Environment Report and hence the true cost of supplying bulk water in New South Wales is understated. Further, State Water does not have an operating licence in place from the Department of Land and Water Conservation and hence compliance with set standards does not exist.

Discussion and assessment

The Council recognises that New South Wales' current processes for determining rural water price paths has several strengths. In particular:

- the Independent Pricing and Regulatory Tribunal provides an independent and transparent process for determining the move towards full cost recovery; and
- through this process New South Wales is taking a broad and comprehensive approach to full cost recovery, including environmental costs, in rural water prices.

The Independent Pricing and Regulatory Tribunal's 2001 bulk water price determination indicates that New South Wales has not yet achieved full cost recovery in the rural sector and an end date has not been set to indicate when full cost recovery will be achieved (for those schemes where the objective can be met).

For the purposes of the 2002 NCP assessment, the Council has satisfied itself that New South Wales will achieve full cost recovery within a reasonable timeframe. In making this assessment the Council recognises that the New South Wales approach is characterised by the degree of independence in price setting, and the degree to which water resource management (environmental) costs are included in setting those prices.

The Council also recognises the New South Wales Government's commitment to pursue full cost recovery through several mechanisms. For example, the 2001 Independent Pricing and Regulatory Tribunal bulk water determination states:

One of the Tribunal's primary considerations for the 2001 bulk water prices determination was the need to set maximum prices for bulk water services that more adequately recover the costs that the Department of Land and Water Conservation incurs in providing these services, in line with a Government commitment to achieve full cost recovery for provision of bulk water. (IPART 2001, p. 3)

In determining rural price paths, however, the Tribunal is also charged with the responsibility of balancing the New South Wales Government commitment with capacity to pay considerations including:

...the ability of bulk water users to absorb the price rises required to achieve full cost recovery. (IPART 2001, p. 3)

The New South Wales Government has also reinforced its commitment to reaching full cost recovery in reasonable time by including a statement in the interim State water management outcomes plan that was publicly released in October 2001. Whilst the plan is yet to be finalised at the time of writing this assessment, the plan does set a target that the Government is pursuing full cost recovery in all practicable cases, except where capital infrastructure cannot reasonably be funded by small numbers of water users.

The above processes have led to the Independent Pricing and Regulatory Tribunal's 2001 three year bulk water determination setting an increase in State Water's recovery of costs from 61 per cent in 2000-01 to 74 per cent in 2003-04. Further, the Council has found in conducting this assessment that

when this figure is disaggregated by water source, the regulated rivers (80 per cent of all water use in New South Wales) will be achieving 94 per cent of costs by the end of the determination period. Only 31 and 32 per cent for unregulated and groundwater sources respectively, however, will have met full cost recovery commitments. The Council recognises that full cost recovery for rural water supply will be largely an issue for unregulated and groundwater sources in the future.

The Council also notes that the Independent Pricing and Regulatory Tribunal has advised that this cost-base is likely to increase over time, due to the increasing need to mitigate environmental impacts. New South Wales has argued that this added variable makes an end date for full cost recovery difficult to determine. Whilst New South Wales has not proposed an end date for reaching full cost recovery, the Council has confidence in the above mechanisms, particularly the independent role of the Tribunal, in reaching full cost recovery which is tempered by the ability of customers to absorb these costs.

Overall, the Council is satisfied that New South Wales' approach has led to improvements in the level of cost recovery consistent with CoAG reform commitments, and that the mechanisms in place will continue to deliver improvements within appropriate timeframes. The Council will, however, review this situation in 2004 where it will expect New South Wales to have continued to pursue rural full cost recovery with the same previously displayed rigor.

Institutional reform

Outstanding issue: Further consideration of the transparency in the relationship between the Department of Land and Water Conservation and State Water.

Next full assessment: The Council will next assess rural pricing reforms in 2004. Institutional reform issues will be assessed in 2003.

Reference: Water reform agreement, clauses 3(a) and (b)

Background and New South Wales arrangements

The Council's progress report on institutional reform outlines the current issues in structural separation between State Water and the Department of Land and Water Conservation and the NSW Government's response to those issues. One of the practical consequences that arise from a lack of separation was identified in the Council's 2001 assessment of rural pricing. In that assessment the Council had concerns about the level of transparency in reporting CSOs.

CSO payments are not provided to State Water and because State Water is a ring-fenced unit within the Department of Land and Water Conservation, it is difficult for the Council to be sure that there is full transparency in the relationship between the Department and State Water.

Discussion and assessment

The New South Wales Government's proposal to conduct an independent review of the governance structure of State Water goes some way to addressing the Council's concerns. Consequently, the Council will delay its assessment of whether New South Wales has met this commitment until 2003. This will be a significant issue for New South Wales in the 2003 NCP assessment.

In 2003, the outcome of the review and the State Government's responses will be considered by the Council in its assessment of institutional reform. In that assessment the Council will consider whether this review has fully considered the structural separation issues identified by the Council in its previous two assessments and whether the government has adopted the recommendations of that review.

Water allocations and property rights

Outstanding issue: In 2001, New South Wales provided an action plan for property rights reform. In accordance with that plan, New South Wales is to demonstrate progress against the following outstanding property rights issues:

- conversion of current licences from five-year to 15-year access licences;
- a register of entitlements;
- the targets in the State water management outcomes plan; and
- the outcomes in the first round of water sharing plans.

Next full assessment: The Council will assess water allocations and property rights reforms in 2004.

Reference: Water reform agreement, clause 4(a)

Background

In 2001, the Council had insufficient information to be certain that New South Wales had fully addressed its property rights obligations. Irrigators did not know the rules that determine the reliability of entitlements; rather, water sharing plans would set the rules and reliability of supply for 10 years. The water sharing plans, the lack of detail on a proposed register of entitlements, the process of converting five-year licences to new 15-year access licences, and transitional issues causing concern among stakeholders meant the Council could not conclude that New South Wales had met its 2001 property rights commitments.

The Council considered suspending the State's NCP payments for 2001-02, given the importance of property rights reforms and the delays in finalising these arrangements. The New South Wales Government, however, committed to a comprehensive action plan to address the property rights reforms. The timetable of the individual property rights components gave the Council

confidence that New South Wales was giving high priority to this issue. The Council therefore considered that the best approach was to allow an additional period for New South Wales to implement the proposed action plan.

Given the delays to date and the importance of ensuring sufficient surety in New South Wales property rights arrangements, the Council called for a re-assessment of progress in a supplementary assessment (January 2002) and as a key issue for the June 2002 NCP assessment. The Council signalled its intention to consider payment suspension recommendations if New South Wales had made insufficient progress by this time.

The January 2002 supplementary NCP assessment considered the proposed form of the register of entitlements. New South Wales will establish a water titles register as a Torrens title system administered by the Land and Property Information Office (formerly the Land Titles Office). The register will include procedures for transactions, protection procedures and the ability to register third party interests, and it will require the consent of the third party interest before a transaction. It will develop rules and procedures for water title that are as similar as possible to the land titles protocols. The assessment concluded New South Wales was developing a sound register model and that the reforms and the consultation undertaken met the concern raised in the 2001 NCP assessment.

The timetabled property rights elements that require assessment in 2002 are:

- the water sharing plans;
- the State water management outcomes plan;
- the information systems for the interim register to be operational in July 2002, including the regulations to be in place; and
- licence conversions (writing to all licence holders to confirm details of proposed new licences), and completed licence and approval policies and processes.

By the 2002 NCP assessment, New South Wales was expected to demonstrate progress against the property rights action plan, including the register. The Council's approach to property rights looks for all States to deliver certainty in ownership of a right and surety as to its characteristics. The registry system is important, particularly for ownership. Further, the State water management outcomes plan, the water sharing plans and the licence conversion process are all important parts of defining property rights. New South Wales is in the process of finalising some 39 water sharing plans that will lock in water sharing arrangements (including those for the environment) by July 2002 for the next 10 years.

New South Wales arrangements

Licence conversion

New South Wales is converting the current five-year water licencing system to a new system of 15-year access licences under the *Water Management Act 2000*. Priority is being given to the conversion of licences for water sources for which water sharing plans are being prepared because these licences account for over 80 per cent of water use in rural New South Wales. The conversion of these licences is scheduled for completion in January 2003. Conversion of the remaining licences for the unregulated rivers and groundwater systems will be undertaken progressively. During 2000, most irrigation licences on unregulated rivers were converted from an area basis to an annual volume basis. All other river licences are in the process of conversion to annual volume entitlements.

New South Wales is undertaking a 'data cleaning' of the records for the existing licences. This is a large, complex and time consuming task. At the time of writing, the task was approximately 75 per cent complete for those licences covered by water sharing plans and 50 per cent complete for all other licences.

The current licensing provisions of the *Water Act 1912* are still in effect. The New South Wales Government anticipates the licensing provisions of the *Water Act* will be repealed by the licensing provisions of the *Water Management Act* at a target date of 1 January 2003. The new access licences and renewal of licences will be made in accordance with the provisions of the *Water Management Act* and its Regulations.⁴ As reported in the 2001 NCP assessment, water licences will be known as access licences and may be divided into two parts: a share component and an extraction component. The share component entitles the holder to a specific share in the available water from a specified water source. The extraction component entitles the holder to take water at specified times, rates and circumstances. Access licences will be issued either as a single access licence or with separate share and extraction components, and can be bought or sold by anyone. It will not be necessary to own or occupy land to hold an access licence. The new system aims to provide clearer rights, improve flexibility for business and facilitate licence trading. The new licensing and approvals system is expected to be ready for implementation for the 1 January 2003 start.

A Regulation under the *Water Management Act* will provide the basis for the operation of chapter 3 of the Act. Under the transitional provision, current licences will be deemed to be a licence under the Act for two years or the period of the licence, whichever is greater, to allow time to complete the conversion process and to allow current licence conditions to continue to apply to water users. The water sharing plans therefore will be implemented under

⁴ The new licensing system will replace parts 2, 5, 8 and 9 of the *Water Act*.

the terms and conditions of existing licences during the transitional period, with the issue of new licences on renewal also being subject to the plan provisions.

The Act's Regulations will define the rollover or renewal provisions for access licences. Existing licences will be given priority in renewal, and current licence holders can apply for renewal before a licence expires. The licences are expected to be renewed subject to standard environmental assessments.

The register

Work is continuing on the development of a water property rights register that will give licence owners certainty in property rights and allow water licences to be used as mortgage security in the same way as property. The Land and Property Information Office will administer the water property rights register in the same way as land titles. The pilot register will be set up in the third quarter of 2002 and a fully operational register will be in place by January 2003. A memorandum of understanding is being developed between the Department of Land and Water Conservation and the Land and Property Information Office to refine the information that will be included on the register.

The Department of Land and Water Conservation has continued to consult key stakeholders including the Australian Bankers Association, the Primary Industries Banking Association, the New South Wales Irrigators Council, the Australian Property Institute and the New South Wales Law Society, on the design of the water property rights register. Stakeholders have generally expressed satisfaction with the model.

State water management outcomes plan

As reported in the 2001 NCP assessment, the Water Management Act provides for the establishment of a State water management outcomes plan to set the overarching policy context, targets and strategic outcomes for management of the State's water resources. The Minister for Land and Water Conservation released an interim plan in October 2001 for public consultation. Box 2.1 outlines the key property rights targets from the interim State water management outcomes plan. The plan sets the direction for all water management action in New South Wales, including the creation of water sharing plans. It sets a number of five year targets for the management of water resources, including extraction limits and environmental flow rules for regulated and unregulated rivers and groundwater systems in accordance with the Murray–Darling Basin Commission cap. It addresses, but is not limited to, water use, drainage management, floodplain management, controlled activities, aquifer interference and environmental protection. The plan will be in effect for five years from gazettal. It will then be reviewed and updated.

Box 2.1: Key property rights targets in the interim State water management outcomes plan

Limits on diversions

- T1 Limits on the total volume of water that can be diverted established such that:
- surface water diversions in the Murray–Darling Basin for regulated and unregulated rivers limited to the level of diversion below the Murray–Darling Basin cap;
 - surface water diversion limits established in all coastal catchments;
 - future floodplain water harvesting diversions in the Murray–Darling Basin capped at 1993-94 levels and at levels consistent with the water diversion limit in other catchments;
 - total groundwater diversions not to exceed (or being staged down to):
 - 100 per cent of long-term average annual recharge for an aquifer or aquifer zone (the sustainable yield) where there is no significant ecosystem dependency;
 - 70 per cent of average annual recharge where there is significant ecosystem dependency but no detailed assessment of water level impacts; and
 - such other appropriate percentage where indicated by detailed assessment;
 - rules for future adjustments to the volume of water that can be allocated for diversion clearly specified and acted on to ensure exceedance of diversion limits are minimised.

Clear and legal entitlements

- T4 Property rights for licensees to water clearly and legally specified in terms of volume or shares and/or works capacities.
- T5 The total volume of water specified on licences (entitlements) reduced to no more than 200 per cent of the long term average diversion limit in surface water systems, and to no more than 125 per cent of the sustainable yield in groundwater systems (link to T1).
- T6 Daily flow extraction shares specified and tradeable in at least 60 per cent of unregulated subcatchments.
- T7 Rights to supplementary water clearly specified and licensed in volume or share terms such that flow thresholds for declaration of supplementary access clearly specified; annual limits on supplementary water diversions established in all systems; rules for sharing between supplementary rights holders explicit; and trading made possible subject to diversion limit and environmental constraints.
- T10 Measures in place in all priority systems to protect basic domestic and stock water rights in rivers and aquifers from the impact of other water extractions;
- T12 At least 90 per cent of licensed installations for extraction of surface or ground waters (excepting stock and domestic bores) metered and reported in each priority system.

Source: New South Wales Government (2001a)

The interim plan has been developed in consultation with the New South Wales Water Advisory Council and local water management committees, and it was given to key stakeholders for comment. Public submissions were also sought, for consideration by a peak stakeholders group.

The interim plan is still to be finalised. As a result of consultation with stakeholders, some of the targets in the interim plan will change. New South Wales has advised that these changes will not affect the viability of the water sharing plans. Rather, the changes are being made to make the intent of the

targets more explicit. The role of the first state water management outcomes plan has also been clarified. The intent is to provide these targets as part of a program of continuous improvement over the first five year term of the plan.

The State water management outcomes plan process is now being run in parallel with the water sharing plan process. New South Wales has advised that the Government is expected to consider the final plan in August 2002.

Water management committees used the interim plan as the basis for developing the water sharing plans. Box 2.1 contains the interim property rights targets to deliver more secure extraction rights.

Water sharing plans

Water sharing plans will specify the rules to apply for the operation of a water source for a defined ten year period. They will define the water available for extraction under access licences, along with the water rights that apply to each category of water access licence. This will allow far greater levels of specification of water users' access rights. Computer models can be used to indicate to access licence holders the probability of water allocations being available in relation to these access rights. This will be an important input to business decisions for the term of the plan.

New South Wales is finalising 39 water sharing plans,⁵ covering 51 water sources that will lock in water sharing and operation rules (including water for the environment) for the next 10 years. The first round of plans include the regulated rivers and the key unregulated and groundwater stressed systems for the high priority areas. Attachment 2 lists the plans and the water management committees that have prepared the draft plans in this first round.

Reliability and probability of water availability has traditionally been well understood for the regulated systems. Water users in the Murrumbidgee, for example, have known that historically they have an 82 per cent reliability of receiving their full allocation and a 35 per cent reliability of receiving off-allocation or supplementary water. Reliability for the unregulated and groundwater systems, however, has traditionally been less specific.

A water sharing plan established in accordance with the Water Management Act (s. 20) must make the following provisions.

- Establish environmental water rules for the water source (see section on provision for the environment).

⁵ The initial plans address only water quantity issues (thus the term 'water sharing' plans). These plans will not cover aspects of the use of water on land, such as water use efficiency, or other environmental aspects of specific land-based activities or developments. Water quality will be covered only to the extent that it is incorporated in an irrigator's rights to access water.

- Identify, provide and protect water requirements to satisfy basic landholder rights.⁶
- Identify requirements for water extraction under access licences.⁷
- Establish a bulk access regime for the extraction of water under access licence. The bulk access regime integrates the environmental water rules, basic landholder requirements and access licence requirements. A water sharing plan:
 - must recognise and be consistent with any water availability limits that are set for the water sources to which the regime relates;
 - must establish rules according to which access licences are to be granted and managed, and available water determinations are to be made;
 - must recognise the effect of climatic variability on the availability of water; and
 - may establish rules on the priorities according to which access licences are to be adjusted if the availability of water is reduced.
- Establish transfer rules for the water source (see section on trading).

The plans must also comply with the priorities for categories of access licences established under s. 58 of the Water Management Act. The sharing of water from a water source (s. 5(3) and s. 9(1)(b) of the Act) must:

- first and foremost, protect the water source and its dependent ecosystems;
- second, protect basic landholder rights; and
- third, protect all other access rights in the following order of priority
 - town water supply, and licensed stock and domestic use;
 - high security access rights on regulated rivers (permanent crops, industry); and

⁶ Three types of basic landholder right under the Water Management Act do not require an access licence. Domestic and stock rights allow landholders with river frontage to extract water for domestic consumption and stock watering purposes. Harvestable rights allow landholders to capture and store overland flow in accordance with a harvestable rights order for an area. Native title holders may extract water in the exercise of native title rights.

⁷ The Water Management Act recognises access licence categories such as regulated river, unregulated river, local water utility, and domestic and stock access licences. Water sharing plans must identify the requirements of water extraction for each access licence category in the water source.

-
- other access licences (irrigation).

A water sharing plan may consider:

- the rates, timing and circumstances under which water may be taken from water sources in the area;
- the kinds of water supply work that may be constructed and used in the area;
- the operation of water accounts for the area, such as the carrying over of credits from one accounting period to the next, and the maximum credit that may be allowed to accumulate in any account;
- water sharing measures to protect and enhance the quality of water in the water sources in the area, or to restore or rehabilitate water sources or their dependant ecosystems; and
- measures to give effect to the water management principles and the objectives of the Water Management Act.

Plans may also contain mandatory conditions to apply to access licences and approvals within an area, and to the circumstances in which the Minister may amend a plan during the period for which it is in force.⁸

Water sharing plans must be consistent with the State water management outcomes plan, any State environmental planning policy under the *Protection of the Environment Operations Act 1997*, and Government policy, including the interim environmental flow objectives for water quality and river flow that were considered in the 1999 NCP assessment.

Water management committees had submitted 36 draft water sharing plans by December 2001. These committees balance the wide ranging views and opinions of stakeholder groups with the technical information provided. About half the draft plans have committee consensus while the remainder represent a majority view. During January 2002, a panel of senior government officials from the Department of Land and Water Conservation, the Environment Protection Authority, New South Wales Agriculture, the National Parks and Wildlife Service and New South Wales Fisheries assessed the drafts to ensure compliance with the Water Management Act and various policy instruments.

A number of plans include dissenting reports from committee members. Where the recommendations in draft plans are not consistent with

⁸ Section 42(2) of the Water Management Act allows for rules within a water sharing plan to be adjusted or altered during the life of a plan, provided the plan sets out the circumstances and the extent of any changes. These circumstances may include changes to system inflows resulting from inter-basin transfers, changes to system infrastructure that affect system operation, legislative changes (Federal or State), the operation of other existing Acts (such as that covering threatened species), and legal decisions that force changes in water sharing plan rules.

Government policy, Minister's notes have been inserted and public comment has been sought through a 40 day exhibition period. All submissions are being referred to the water management committees to consider in formulating final recommendations.

Water sharing plans, once finalised and gazetted under the Water Management Act, will be legally binding for the next 10 years. The aim of the plans is to provide a decade of security for all water users and to secure provisions for the environment. To gazette final plans, the Minister for Land and Water Conservation must have the concurrence of the Minister for the Environment. The final water sharing plans are intended to be gazetted and operational for the 2002-03 water year.

Implementation programs

On finalisation of the water sharing plans, the Department of Land and Water Conservation will prepare an implementation program for each water sharing plan in accordance with s. 51 of the Water Management Act. The implementation program sets out the means by which the plans provisions will be achieved. Matters to be covered by implementation programs include timetables for:

- **the measuring and monitoring of water extraction, river flows, river health and other indicators stated in the plan;**
- **group licence registration;**
- **water accounting;**
- **the trading of water access licences;**
- **enforcement of the plan; and**
- **licence conditions.**

At the time of writing, draft implementation programs were being progressively provided to the water management committees for review.

Water policy advisory notes

The New South Wales Government prepared 15 water policy advisory notes to assist the water management committees in developing the water sharing plans. The advice applies to all water sources, including specific notes for regulated rivers, unregulated rivers, groundwater sources and coastal/estuarine areas. Attachment 3 contains a summary of the water advisory notes given to water management committees.

The policy advisory notes illustrate how the new property rights system will work via the development of water sharing plans for the regulated rivers, unregulated rivers and groundwater systems. For unregulated rivers,

allowable water extraction is dependent on flow classes established for the river (see box 2.2). The policy position is that up to 30 per cent of a flow class can be made available for extraction. If current extraction levels are already above this then up to 70 per cent is allowed.

Where extraction is greater than 30 per cent of flow in a class, a water sharing plan will provide strategies for reducing extraction after consideration of the impact on licence holders. These strategies could include:

- not allowing transfers into a subcatchment;
- implementing a staged contraction of bulk extraction volumes during the period of the plan;
- allowing a licence holder affected by reduced low flow access to apply for unallocated C class daily flow shares;⁹and
- providing for licence holders to hand in A class daily flow shares in return for C class daily flow shares that are greater in magnitude.

New South Wales has advised that it will take some years to fully implement these daily flow share arrangements and that this degree of sophistication will not be required in small creeks where only a few licences are present.

⁹ Strategies involving the issue of greater annual entitlements in return for retirement of low flow access are not an option in the Murray–Darling Basin. Plans for coastal systems may include such strategies after the impact on downstream users and the environment is assessed.

Box 2.2: An example of the New South Wales model for unregulated systems

The scenario: For a perennial river, the assessed very low flow is 10 megalitres per day. The calculated current peak demand is 80 megalitres per day. An additional 20 megalitres per day is pumped to off river storages where opportunities arise. Full development peak daily demand is an additional 15 megalitres per day.

Based on the proposed method:

- *Very low flows.* A field assessment shows 7 megalitres per day is required to maintain connectivity between pools in the river and provide for low flow environmental requirements. An additional 3 megalitres per day is required to provide for basic water rights, giving a total of 10 megalitres per day to be protected before licenced pumping is allowed.
- *A class flows.* For low flow periods, when flows are between 10 megalitres per day and 50 megalitres per day (80th percentile). Current peak demand less 10 per cent is well in excess of the maximum allowed bulk extraction volume of 60 per cent of the flow sharing index (50 megalitres per day), or 20 megalitres per day. The bulk extraction volume therefore should be 30 megalitres per day, all of which would be initially allocated to licences.
- *B class flows.* When median flows occur between 50 megalitres per day (80th percentile) and 200 megalitres per day (50th percentile). Current peak daily demand less 10 per cent is 72 megalitres per day, which is between 60 megalitres per day (30 per cent of the flow sharing index of 200 megalitres per day) and 120 megalitres per day (60 per cent of the flow sharing index of 200 megalitres per day). The bulk extraction volume therefore should be 72 megalitres per day, all of which would be allocated to licences.
- *C class flows.* When moderate to high flows occur — that is, above 200 megalitres per day (50th percentile). Current peak daily demand (including the 20 megalitres per day pumped to off river storages) less 10 per cent is 90 megalitres per day, which is well below the 144 megalitres per day (30 per cent of the flow sharing index of 480 megalitres per day).

In this case, 144 megalitres per day could be determined as the bulk extraction volume to all full peak daily demand of 95 megalitres per day plus 20 megalitres per day for those who pump to off river storage to be allocated to licences, and 29 megalitres per day to remain unallocated for new (embargo exempted) licence applications and some growth in town water use.

For an individual licence this would mean:

A licence in this subcatchment has an annual entitlement of 100 megalitres (2 per cent) out of a total of 5500 megalitres of entitlement in the subcatchment. The licence currently has full flow range access and does not pump into off river storage. As a result of the implementation of the water sharing plan, the licence would have the following conditions:

- no pumping permitted when the river flow is less than 10 megalitres per day;
- pumping of up to 0.6 megalitres per day when the flow is in A class (daily flow share of 2 per cent of the allocated bulk extraction volume of 30 megalitres per day);
- pumping of up to 1.4 megalitres per day when the flow is in B class (daily flow share of 2 per cent of the allocated bulk extraction volume of 72 megalitres per day);
- pumping of up to 1.8 megalitres per day when the flow is in C class (daily flow share of 2 per cent of the allocated bulk extraction volume of 95 megalitres per day).

It should be noted that these daily flow shares are not cumulative; for example, when the river is flowing in the B class range, licences can take up to 1.4 megalitres per day, not 2 megalitres per day (1.4 B class + 0.6 A class).

Source: New South Wales Government (2001b)

Total use of groundwater is to be managed within the sustainable yield¹⁰ so groundwater is available for future generations. Current use in some sources is above the sustainable yield for the source overall or in particular zones. In such cases, a water sharing plan must specify the mechanism to reduce overuse to the sustainable yield level by the end of the 10-year period. Water sharing plans must also identify and protect significant groundwater-dependent ecosystems (see section on provision for the environment) and recommend an environmental proportion.

The total volume of water specified on licences is to be reduced to no more than 125 per cent of the sustainable yield in groundwater systems. Where adjustment of entitlements is required, all current licences (excluding the town water supply, and stock and domestic uses) will be adjusted proportionally rather than on the basis of history of use. Committees have been advised to provide for this early in the plan term to enable licence holders to have a clear understanding of their long term extractable rights, and to allow transparent operation of the groundwater transfer market.

The key aims of water sharing plans are to reduce overall water use to sustainable yield levels and to achieve a reduction in licensed entitlements closer to sustainable yield over the 10-year planning period.

Box 2.3: An example of the New South Wales model for groundwater systems

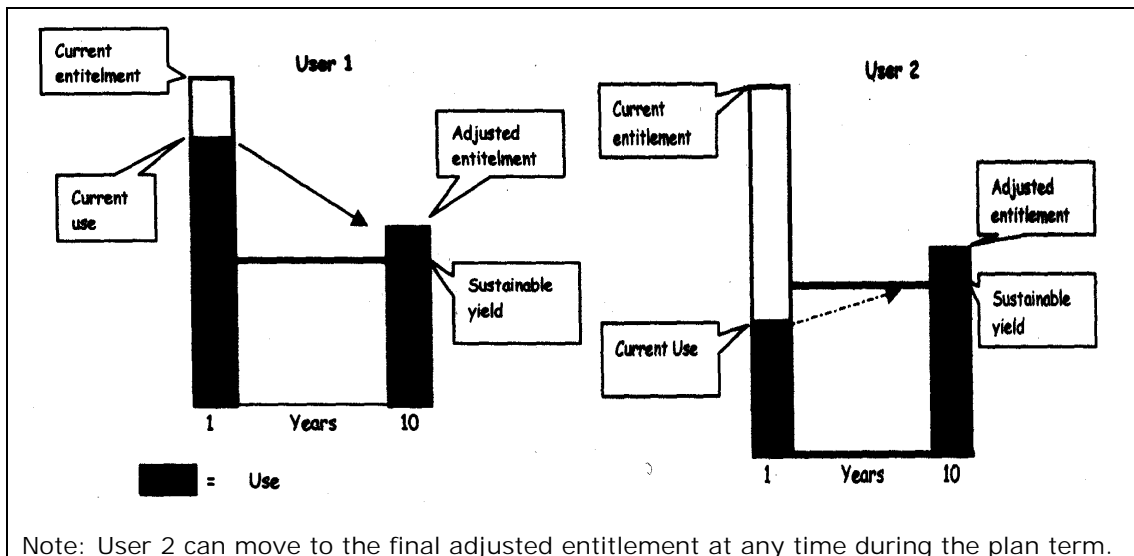
A system has a sustainable yield less than overall existing use levels, and the long-term use needs to be reduced to 50 per cent of current licence entitlements. The committee has recommended a linear phase-down of overall water use over the term of the plan, and a reduction in all licence entitlements to their long-term levels at the commencement of the plan.

Consider two licence holders who each have a current licensed entitlement of 1000 megalitres per year (see diagram below).

- At the start of the plan, user 1 has an adjusted licence entitlement of 625 megalitres per year. This user has a history of use of 800 megalitres per year and will be allowed to phase in the use adjustment over the planning period. Licence conditions will allow the licence holder to take additional water during the plan term: up to 780 megalitres in year 1, 765 megalitres in year 2, 745 megalitres in year 3 etc down to 625 megalitres maximum in year 10.
- User 2, has used only 425 megalitres of the licensed entitlement in the past and would have use limited to the adjusted entitlement during the planning period. That is, user 2 could use up to 625 megalitres in any year.

Both users will have an expectation of long-term use of 500 megalitres per year, but could use up to the 625 megalitres if overall use for the aquifer system remained below the sustainable yield level.

¹⁰ 'Sustainable yield' is the long-term average amount of groundwater available for extraction without compromising the integrity of the aquifer or the surface ecosystems that it supports. It is measured as the estimated long-term annual average 'natural recharge' to the aquifer, less a portion set aside for the environment (see section on provision for the environment).



Source: New South Wales Government (2001b)

Submissions

The Council has received submissions on various aspects of New South Wales property rights arrangements from the New South Wales Irrigators Council (2002, submission 12), Robert Caldwell (2002, submission 5) and the World Wide Fund for Nature (2002, submission 13). The New South Wales Irrigators Council (submission 12) argued that the term 'allocation' is not the right word to use for property rights because allocations refer to the proportion of one's entitlement available in any one year. Irrigators are seeking property rights for their entitlements. The submission noted that the 2001 NCP assessment stated that:

New South Wales argued that the security of ownership of property rights will be addressed in a registry system, which records the nature of the right and the share of the available water to which the licensee is entitled. (NCC 2001, p. 21)

The submission argues that while the register of water entitlements is important to establish a strong property rights system, it describes only the nature of the right and does not address tenure and duration concerns. In effect, the register will give a detailed description of something not owned by the irrigator. The Council has been more concerned with the ability of New South Wales to develop a list of actions and timeframes than with looking at the gaps and flaws in the Water Management Act and its implementation against the CoAG principles. The Act does not provide guarantees because most of these will be covered by regulation/orders, so the Council cannot assess the State's property rights regime until the regulations are finalised. The New South Wales Irrigators Council submission contained a table that compares water rights under the Act with previous entitlements under the *Water Act 1912*.

Robert Caldwell (submission 5), a Lachlan irrigator, raised property rights concerns in relation to the Lachlan system in central New South Wales. Environmental flows have relegated general security allocations in the Lachlan to least priority, so irrigators are ranked last. In dry years, Mr Caldwell asserts, there is only enough water for the environment, high security licences and carryover. Zero irrigation allocations for general security licences occur in dry times (40 in every 100 years), reducing reliability to unworkable levels.¹¹ Mr Caldwell further asserts that there is a growing gap between high value use requiring high investment and high reliability, and traditional low cost supplementary irrigation. He argues that the activation of sleeper licences will reduce allocations by half and have an impact on farm viability and value: allocations for the Lachlan system could be reduced by 45 per cent with no compensation for the loss of rights. Trade, according to Mr Caldwell, drives up the value of all water, adds to the cost of production, and avoids paying compensation for property rights for the impacts of allocation reductions to the economy. Water reductions, in Mr Caldwell's opinion, will reduce productivity and will impact on the economy when the economy cannot afford reductions in production.

The World Wide Fund for Nature (submission 13) raised concerns about the development of the register of water entitlements and the overallocation targets contained in the State water management outcomes plan. The World Wide Fund for nature did not support a register that codifies and clarifies property rights at this stage. It considered that any register should outline who owns what rights, and that register information should be matched with sustainable water requirements so rights can be reduced to sustainable levels. The submission noted that a Parliamentary inquiry into the allocation of water resources in Victoria found 'the bulk entitlement conversion process is converting pre-existing, poorly defined entitlements of authorities to well-defined entitlements. Generally, it does not, nor does it aim to, increase water for the environment'. The submission argued that codifying property rights in New South Wales may lead to the same outcome.

In relation to overallocation, the World Wide Fund argued that entitlements in many catchments in New South Wales are overallocated by 400 per cent of what they should be, without even accounting for the environment. Entitlements are above use levels that are assumed to be sustainable yield. The interim State water management outcomes plan sets an overallocation target to restrict allocations to 200 per cent of the long-term average diversion limit. The environmental groups in New South Wales are seeking a target of 150 per cent. They argue that if property rights are to be implemented in overallocated systems, then a clearly defined mechanism needs to be in place to indicate the changes needed.

Finally, the World Wide Fund argued that licence compliance is neglected in New South Wales. There are no property or licence audits. A compliance

¹¹ For the Lachlan system, high priority water is only a small proportion of the total water supplied (see attachment 2, table 2.5). The result of zero allocations for general security licences is a result of climatic variations.

system would require a policy, audit and review process to be put in place. The submission considered that New South Wales should ensure licence compliance before strengthening the property rights system.

Discussion

At the time of writing, some groups were continuing to express serious concerns about aspects of the New South Wales system of implementing water property rights reform. The Water Management Act provides a framework which guarantees a 15 year access licence backed by a register, and a 10 year statutory water sharing plan with compensation provisions. Irrigators are still concerned about the property rights systems, however, including the impact on certainty of their water allocation at the end of the water sharing plan and the rollover of licences. The rollover provisions for water access licences will be defined in regulations under the Water Management Act (to be in place by the end of 2002). The Act is quite explicit about the rollover of licences from the old to the new Act. Schedule 9 makes it clear that current licences will be deemed to be licences under the Water Management Act for two years or the remaining term of the licence, whichever is the longer. Finalisation of this regulation is a major component of property rights. Ongoing monitoring and the yearly implementation programs will ensure licence holders know how the plan is performing and its likely impact on their licence in the future.

Regarding the licence conversion process, around 10 per cent of cases have involved problems in establishing who owns the licence and who has an interest in the licence. The banking sector is concerned about mortgage security with the conversion of licences because the owner of the land may not be the owner of a water licence. New South Wales is considering mechanisms to deal with this issue.

Stakeholders have asked for a register to be established similar to the Land Titles Office to lock in property rights. The President of the Australian Bankers Association, in responding to the clawbacks of nominal entitlements by up to 85 per cent in some areas, argued that New South Wales water reform has failed to deliver adequate tenure of water property rights and to consider structural adjustment mechanisms. The Association is interested in water property rights as security for lending and has called for a structural adjustment package to offset negative impacts. The Australian Properties Institute argued that New South Wales is trying to invent title for water property rights, and that the Water Management Act is flawed until the nexus between land and water can be broken so their values can be quantified.

New South Wales is continuing to develop a register of access licences that will operate along the same lines as the existing register for land title, giving licence owners certainty and allowing water licences to be used as mortgage security in the same way as property. The pilot register will be set up in the third quarter of 2002 and is intended to be fully operational in January 2003.

In April 2002, CoAG re-affirmed the importance of water property rights issues in dealing with the nation's salinity and water quality problems, noting the need to consider the implications of changes to water property rights for investment and for water users, particularly farmers. To clarify these issues, jurisdictions agreed to report to CoAG by September 2002 on opportunities for, and impediments to, better defining and implementing water property rights regimes (including water trading markets and, where appropriate, the responsibilities of water users). Jurisdictions will also report on how they are addressing uncertainties about property rights. CoAG has attached a high level of importance to the establishment of an effective and efficient system of property rights for water, and to the need for water users to have certainty of access to water.

In May 2002 the National Farmers Federation released a position paper on water property rights. The federation is seeking water property rights that have a title that triggers compensation if removed or impaired, and that are granted in perpetuity, flexible, exclusive, transferable, and divisible or capable of being shared or subdivided. It wants secure water property rights for farmers that would essentially trigger compensation and is seeking an intergovernmental agreement where the Commonwealth requires the States to implement appropriate protection of property rights. Under such an agreement, the States would be required to implement appropriate protection for property rights as a condition for Commonwealth funds being made available for national environmental programs such as the National Heritage Trust and the National Action Plan on Salinity and Water Quality. A national review committee (similar in structure to the Council) would ensure compliance by the States and would validate the extent to which States comply with the Commonwealth standard of property right protection. The Commonwealth would review its own legislation (specifically, the Environmental Protection and Biodiversity Conservation Act) to ensure compensation to landholders where their property rights are reduced to generate environmental benefits for the public. Further, a transparent public benefit test process should be applied for all environmental legislation.

In relation to the reform process in New South Wales, the National Farmers Federation argues there has been inadequate consultation on the draft water sharing plans. It cited the case of the Namoi where nominal entitlements may be cut by up to 73 per cent.

The New South Wales Irrigators Council has formed an alliance with the New South Wales Farmers Association, Cotton Australia, the Ricegrowers Association, the Local Government and Shires Association, and the Australian Bankers Association. In response to the draft water sharing plans, the alliance has called for quantitative socio-economic assessments of the proposals to provide a baseline for the five-year review of plans and to provide information for decision-making. It noted that the Water Management Act requires the committees to have due regard to social and economic impacts. The alliance has called for:

- a 40-day period for public consultation on all water sharing plans;

- clear definition and enforcement from July 2002 of Regulations that set the property rights provisions of the Water Management Act;
- the adoption and implementation of a public benefits test involving environmental, economic and social impacts, to be applied to all new government environmental legislation;
- the provision of a structural adjustment package based on the results of the public benefits test, to offset any negative impacts on water users and regional communities from changes to water allocations;
- a post-implementation independent panel to assess the findings of the public benefit test, to ensure the findings are accurate;
- a commitment to improving the scientific understanding of the environmental needs of rivers and the sustainable yield for groundwater;
- a commitment to meeting environmental needs first through better management and structural works, then through buy-back via trade, and finally through reduced allocations resulting in compensation to affected landholders; and
- the development of a register for water licences based on the Torrens Title system that exists for land.

In this climate, the New South Wales Irrigators Council has submitted the property rights table in its submission. The Council notes that the State's property rights system is predicated on clearly defined access rights, and has concluded in previous NCP assessments that the 15-year access licences and 10-year water sharing plans comply with CoAG commitments.

In relation to exclusivity, the table asks what "statutory provision for water accounts and enhanced account management means in the [2001 NCP assessment] table". In New South Wales, temporary transfers of allocation water occur through water accounts. A water account will be established for each access licence. Water may be moved from one account to another subject to the transfer rules of a water sharing plan. If a water user wishes to obtain the right to water on an ongoing basis, the user must either purchase or lease an access licence, which is then recorded on the public register. The Water Management Act requires the Minister to maintain a record of volumes held in water accounts and movements of water between accounts; the Act does not require the register to incorporate these records. New South Wales has noted that the access licence register may include general information about water accounts and where licence holders can obtain information. The peak stakeholders group is considering the type of connection to apply between Department of Land and Water Conservation records and the register.

The State water management outcomes plan will set a target to address unsustainable growth and overallocation. The interim target is to reduce (or phase down) the total volume of water specified on licences to no more than 200 per cent of the long-term average diversion limit in surface water systems, and to no more than 125 per cent of the sustainable yield in groundwater systems.

Boxes 2.4 and 2.5 identify the priority surface water and groundwater systems in terms of the current status of licensed entitlements relative to the likely diversion limits. The targets are expected to affect about 10 per cent of surface water areas across New South Wales. Four management areas will need to reduce total entitlements by up to 30 per cent to meet the target, and another three will need to reduce by 30–50 per cent to meet the target. The groundwater target affects nine priority groundwater systems.

Box 2.4: Priority surface water systems

Total entitlement of 200–300 per cent of diversion limit
Lachlan regulated river
Barwon–Darling unregulated river*
Upper Border unregulated rivers*
Upper Lachlan unregulated rivers
Total entitlement of 300–400 per cent of diversion limit
Lower Gwydir unregulated rivers
Castlereagh unregulated rivers
Total entitlement over 400 per cent of diversion limit
Far West intersecting unregulated streams*

* These areas will be considered in the second round of water sharing plans.

Source: New South Wales Government (2001a)

Box 2.5: Priority groundwater systems

Total entitlement of 125–200 per cent of sustainable yield
Great Artesian Basin*
Lower Murrumbidgee
Lower Lachlan
Total entitlement of 200–300 per cent of sustainable yield
Lower Namoi
Upper Namoi
Gwydir
Total entitlement over 300 per cent of sustainable yield
Lower Murray
Lower Macquarie

Note: Another nine aquifers not on the current list are likely to have total volume entitlements exceeding 125 per cent of sustainable yield.

* Developed in accordance with the intergovernmental Great Artesian Basin strategic management plan to be implemented over the next 15 years.

Source: New South Wales Government (2001a)

The tables are only indicative and final numbers depend on the diversion limits determined in each water sharing plan.

The interim State water management outcomes plan argues that the short-term economic impact of any reductions in volumes specified on licences

depends on the degree of adjustment required. The economic impact is expected to be largely limited to the fully active water users and can be managed by announcing higher annual allocations in the first few years to give irrigators time to adjust. New South Wales concludes that some short-term economic impacts may result from reductions in entitlements, but that these should not be large and can be mitigated through appropriate management of announced allocations and carryover provisions.

In setting the targets, New South Wales has argued that it is reasonable to expect the total volume specified on licences to exceed the diversion limit for a system, particularly for surface water sources. This is because the diversion limit is specified as a long-term average volume while licence volumes are maximum volumes that can be extracted in any one year due to climatic variability and the water demands of crops or stock. Water users have treated the volume specified on a licence as a buffer against drought or reduced water availability. In most years, however, water diversions will be less than the total volume of water licences. The Murray–Darling cap also works to keep diversions significantly below licensed entitlements.

The State water management outcomes plan targets have not been finalised. New South Wales will not be able to confirm any targets until the Government has finalised the plan. The current target to reduce (or phase down) the total volume of water specified on licences to no more than 200 per cent of the long-term average diversion limit in surface water systems is still under consideration. The targets are being developed in consultation with communities, having regard to social and economic factors as well as scientific factors. If a large number of committees raise concerns about the same target then New South Wales may need to revisit the targets in finalising the State water management outcomes plan. The Council will need New South Wales to provide information to indicate that the final cap target is reasonable given the natural variability in the availability of water and high variability of use.

In the draft water sharing plans, water management committees have advised of the existence of the New South Wales Rural Assistance Authority's Irrigated Agricultural Water Use Efficiency Scheme and Special Conservation Loan Scheme. The first scheme improves the efficiency of water use in irrigated agriculture by providing 80 per cent of the costs (up to \$12 000) of irrigation and drainage management planning, 50 per cent of the costs (up to \$15 000) of water efficiency works and 50 per cent of the costs of crop water use monitoring. The second scheme provides loans of up to 90 per cent (up to \$100 000) of the cost of works that have a beneficial impact on the environment, the land or community. Loans are available at special rates of interest. These programs are to assist water users to adopt the new water sharing arrangements in plans.

The Namoi groundwater committee recommended that a structural adjustment package is essential to alleviate the social and economic impacts of entitlement reductions. New South Wales has announced that \$112 000 is available to individual water users in a structural adjustment package to generate 30 per cent water efficiency savings in the Namoi region: \$12 000 to review on-farm efficiencies, a \$50 000 grant to implement efficiencies and a

\$50 000 interest-free loan. The New South Wales 2002-03 provided \$20 million in structural adjustment assistance for the clawback of overallocations for the Namoi groundwater plan. Matching funds are being sought from the Commonwealth Government.

In relation to the draft water sharing plans, at the time of writing, 36 of the 39 draft water sharing plans had been publicly exhibited on the Department of Land and Water Conservation website, inviting public submissions. The last round of plans had a closing date for submissions of 31 July 2002. Two weeks after submissions close on the draft plans, the Government will make available to the water management committees:

- the public submissions on the committee's plan and a summary of the issues raised in submissions;
- an analysis of the plan's compliance with the State water management outcomes plan;
- a draft of the legislation that will give effect to the plan; and
- a draft of the first implementation program for the plan.

Water management committees will then have approximately seven weeks to make final recommendations on their plan to the Minister. A Government committee will consider the water management committee's final recommendations. If the final plans do not comply with the State water management outcomes plan, then the Government will need to decide how to deal with differences in finalising the first round of the Minister's plans.

The water sharing plans are expected to be progressively finalised and gazetted between September and November 2002. In the interim, water management committees will be asked to recommend provisional rules to apply for the irrigation season between 1 July and final gazettal of the plans. An important issue will be whether other elements of the plan need to be triggered during the interim period. Given drought conditions in New South Wales, the general licences on some major rivers will be carefully considered by the Government including the need for a zero allocation. Water availability will be monitored and the allocation level increased if conditions improve.

The Council has examined a number of draft plans during the course of this 2002 NCP assessment. In relation to the regulated systems, the draft plans seem to comply with the property rights approach in terms of setting a plan and cap limit, and then comparing current developments against the long-term average modelled diversions. A response trigger has been developed. If the long-term average annual diversions have increased by 3 per cent or more above the plan limit, or half the difference between the plan limit and cap limit, then year two data are to be collected and analysed to see whether this rise is a 'one off'. If the rise is not a 'one off', then response measures are to be implemented in year three to return the long-term level of water diversions to those set by the plan and to constrain further growth in diversions. The primary response is a reduction in the maximum amount of water that supplementary water access licence holders can take. Water

available to high and general security licences will be reduced only once all access to supplementary water has been eliminated and assessments indicate that water availability needs to be reduced further to stay within water use limits.

For the unregulated systems, water management committees have been asked to recommend adjustments to the proposed flow access management arrangements for a particular subcatchment. Matters that may be addressed include whether the proposed flow classes are workable, whether particular environmental needs are being met and whether the level of impact on licensed users is within reasonable bounds. Committees can look at different boundaries for flow classes, revised amounts for very low flows, and revised bulk extraction volumes after a consideration of social and economic costs.¹²

Other issues raised for the unregulated systems include concerns that the growth of basic landholder rights from rural subdivisions threaten the health of the river and existing businesses. Committees have proposed restricting domestic and stock landholder rights in a number of plans. The Minister's note states that a whole-of-government approach is needed on this issue, and a report is expected to be available in late 2002. This issue may be addressed as a target in the final State water management outcomes plan.

Assessment

The Council's approach to property rights looks for all states to deliver certainty in ownership of the right and surety as to its characteristics. The registry system is important, particularly for ownership. Further, the State water management outcomes plan, the water sharing planning process and the licence conversion process are important for defining property rights.

The Council is satisfied for this 2002 NCP assessment that New South Wales continues to meet the rollout of the new water property rights arrangements and is making every effort to comply with its CoAG commitments. For the 2001 NCP assessment, New South Wales provided a timetable of property rights commitments to be implemented over two years. An examination of this timetable shows that New South Wales is on track with implementing each element.

A key issue for this assessment has been the property rights arrangements — to be established by the State water management outcomes plan and in the 39 water sharing plans — that will lock in allocations and environmental provisions for the next 10 years. The Council considers that there is insufficient information to conclude that New South Wales has complied with its NCP commitments in this area. There have been further delays, although New South Wales has

¹² The New South Wales Government allocated \$20 000 per committee to conduct socio-economic assessments of the impacts of the development of water sharing plans.

been doing all it can to address this particularly difficult issue, and is making significant progress in meeting each of the relevant requirements.

The Council has examined the draft water sharing plans and considers that some of the draft plans are likely to change significantly before they are finalised. The preparation of water sharing plans represents a necessary and significant step for the future management of water resources in New South Wales. Water management committees have undertaken considerable work in considering the gamut of issues raised and the nature of trade-offs that may be required. It is a difficult process to balance the wide ranging views and opinions of interest groups with the technical information required for decision-making.

Water sharing plans, once finalised and gazetted under the Water Management Act, will be legally binding for the next 10 years. The plans will provide security of access for environmental water and for all water users during the 10-year term. Further, water access licence holders will be able to claim compensation if water access is reduced during a plan's term where the plan's bulk access regime is varied for unspecified purposes. A number of draft plans contain Minister's notes where the recommendations are inconsistent with the Water Management Act, Government policy or the targets contained in the State water management outcomes plan. The Council notes that there have been some problems with the process involved in implementing this first round of plans, but recognises the enormity and complexity of the task of reforming the New South Wales water management system. Some committees, for example, have had insufficient opportunity to incorporate adequately water policy advice and State water management outcomes plan targets into the initial draft plans. These imperfections in the process have complicated the transition to a new property rights system. The concerns of stakeholders warrant consideration against this background. The Council therefore intends to conduct further assessments of New South Wales on this issue.

- First, the Council will conduct a supplementary assessment by the end of 2002 to consider the final State water management outcomes plan, the final water sharing plans and the implementation programs. As part of that assessment, the Council wants to discuss with New South Wales the process and timeframe to develop the next round of water sharing plans. The Council notes that the next round of plans are still for stressed systems and that the 1999 tripartite meeting commitment required action on stressed river systems to be in place by June 2001.
- Second, progress against the property rights timetable will continue to be a key issue for New South Wales in the 2003 NCP assessment. The next key date for water property rights for New South Wales is January 2003, when the new access licence system will be introduced, the regulations to the Water Management Act will be in place to establish the renewal systems for the new licences, and the register will go live. The register will give licence owners certainty of ownership in property rights and allow water licences to be used as mortgage security in the same way as property.

Provision for the environment: the State water management outcomes plan

Outstanding issue: New South Wales is developing a State water management outcomes plan that will set targets to increase environmental flows across the State. The Council is to assess the scientific basis for the level of the targets set.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

In the 2001 NCP assessment, New South Wales had notified its intention to develop a State water management outcomes plan to set the overarching policy context, targets and strategic outcomes for the development, conservation, management and control of the State's water resources. The plan would set the clear direction for water management action and ensure environmental, economic and social river flow objectives are specifically addressed. In 1997, the New South Wales Government asked the water management committees to recommend a package of environmental flow rules. An upper limit on the impact the rules could have on irrigation supplies was set at 10 per cent of the long term average cap figure. Flow targets set by the State water management outcomes plan would be referred to water management committees to ensure the water sharing plans comply. If an environmental target is adopted, the Council would need to be convinced of the scientific basis for the target. The Council undertook to assess this issue in the 2002 NCP assessment.

New South Wales arrangements

The interim State water management outcomes plan explicitly identifies the protection and enhancement of the environment and aquatic ecosystems as a key objective of water sharing plans. The interim State water management outcomes plan establishes environmental flow rules for regulated, unregulated and groundwater systems, in accordance with the Murray-Darling Basin Ministerial Council cap and the 1997 New South Wales interim environmental flow policies. The key environmental targets contained in the interim State water management outcomes plan are shown in box 2.6.

Box 2.6: Key environmental targets set in the interim State water management outcomes plan

- | | |
|----|---|
| T2 | Ensure all water management plans seek to identify appropriate opportunities for improving diversity and abundance of native aquatic animals and plant species, with particular reference to threatened species. |
| T3 | Environmental flow rules and/or extraction limits established in regulated and priority unregulated rivers such that: <ul style="list-style-type: none"> • frequency of 'end of system' high flows improved by at least 10 per cent where they would be less than 60 per cent of predevelopment levels without environmental flow rules or limits; • frequency of 'end of system' daily low to median flows increased by at least 10 per cent where that would be less than 60 per cent of predevelopment levels; • frequency of 'end of system' daily flows up to the predevelopment 95th percentile protected or restored; • limits on daily supply volumes in lower river and effluent systems of regulated rivers set below 80 per cent of channel capacity for 90 per cent of the irrigation supply days so as to reduce the impact of unseasonal flows; and • a proportion of the natural drying phases are reinstated in the core areas of terminal wetlands. |

Other environmental targets contained in the interim State water management outcomes plan are:

- assessing and mapping groundwater aquifers, consistent with the draft groundwater-dependent ecosystems policy;
- completing the review of existing weirs to ensure there is no net increase in the number or total capacity of weirs, consistent with the New South Wales Weirs Policy 1997, and to remove at least 10 and structurally modify 15 priority weirs;
- improving temperatures below major dams within 2 degrees of natural temperatures between July and April by structural or operational changes, consistent with the New South Wales cold water pollution program;
- increasing native vegetation along waterfront land by 5 per cent where it is currently less than 50 per cent of the natural cover in each catchment, consistent with the New South Wales Salinity Strategy and draft New South Wales native vegetation conservation strategy; and
- mapping, assessing and acting on high salinity risk irrigation areas to reduce accession rates, in accordance with the New South Wales salinity strategy.

Source: New South Wales Government (2001a)

The outcomes and targets have been set on the basis of continuous improvement and do not attempt to be exhaustive. The targets selected are those likely to achieve the greatest gains towards outcomes in the short term. A few are 'enabling' targets which typically require mapping and assessment to be completed within five years as a prerequisite to an expected management action. The environmental aspects of the State water management outcomes plan were developed considering the results of monitoring such as the integrated monitoring of environmental flows program.

Water sharing plans must provide for the monitoring of performance of relevant local management targets. Statewide programs will undertake monitoring and assessment of the long-term outcomes.

Regulated rivers

The regulated systems support important ecosystems and aquatic species, especially in the mid to lower sections. River regulation and associated extraction has reduced flows, with consequent declines in ecological processes, species and biodiversity. The State water management outcomes plan states that:

'Given the degree of impact on flow frequency in their lower reaches experienced by most regulated rivers and the increasing evidence of decline in the ecology of these rivers, a target requiring a 10 per cent improvement where flows have been reduced by greater than 40 per cent is not unreasonable.' (New South Wales Government 2001, p. 17)

In preparing water sharing plans, the committees are required to review the 1998 environmental flow rules in meeting the State water management outcomes plan targets and to modify the rules. Table 2.3 shows the current flow volumes for the regulated rivers as a percentage of predevelopment levels with and without the 1999-2000 environmental flow rules.

Table 2.3: Interim environmental flow rules (EFRs) for the regulated rivers

River	High — 10th percentile		Medium — 50th percentile		Low — 95th percentile	
	No EFR	Current EFR	No EFR	Current EFR	No EFR	Current EFR
Murrumbidgee	50	49	19	30	30	52
Lachlan	71	82	61	44	100+	zero flow (natural)
Macquarie	87	90	34	47	100	100+
Namoi	58	61	51	48	29	14
Gwydir	48	50	55	66	81	100

Source: New South Wales Government (2001a)

The current (pre water sharing plan) environmental flow rules are estimated to have the following impact on total long-term average annual diversions compared to cap levels:

River	Percentage reduction on total long-term average annual diversion from cap levels (per cent)
Murrumbidgee	3.5
Lachlan	4
Macquarie	17
Namoi	3
Gwydir	5

Source: New South Wales Government (2001a)

The interim environmental flows provide the basis for the targets set in the State water management outcomes plan. The plan therefore concludes:

'... it is likely that in most cases the targets could be achieved within the 10 per cent limit on the impact on diversions adopted for the interim environmental flows in 1998.' (These figures are the best available at the time of preparation of this plan). (New South Wales Government 2001, p. 18)

Where systems already meet the targets, environmental flow rules can be set to address specific environmental outcomes or to improve flows to go beyond the minimum targets.

Unregulated rivers

For the unregulated systems, hydrological stress was defined in 1998 as the proportion of the daily low to medium flow that licensed water users extracted during peak irrigation periods. Subcatchments that have a significant proportion of low to median flows extracted during the irrigation season are typically likely to exhibit evidence of environmental stress.

Of the 700 unregulated subcatchments across New South Wales:

- approximately 25 per cent were assessed as having their flows reduced to less than 40 per cent of natural flow (high stress category);
- another 10 per cent were assessed as having their flows reduced to less than 60 per cent of natural flow (moderate stress category); and
- about 30 per cent of subcatchments had unresolved assessments due to lack of streamflow data.

The State water management outcomes plan notes that the flow frequency targets are consistent with the policy paper on daily flow extraction shares for unregulated river water sharing plans. This paper proposes that flows that have been reduced to less than 40 per cent of natural flow should be increased by 10 percentage points (or at least to 40 per cent). Flows that are less than 60 per cent of natural flow should be improved by at least 10 percentage points. Where flows are better than 60 per cent of natural flow, subcatchments should be maintained at current levels or improved.

Groundwater

Access to groundwater is to be managed within the sustainable yield to ensure the resource is sustained for future generations and dependent ecosystems remain viable.

To ensure groundwater extractions do not exceed average annual recharge minus a volume to prevent further decline in the condition of any groundwater-dependent ecosystems, where detailed information is not available the State water management outcomes plan sets the volume at 30 per cent of the average annual recharge. In aquifers where few significant groundwater-dependent ecosystems can be identified, this volume may be reduced. Groundwater-dependent ecosystem protection zones will be mapped for all priority aquifers, water level sensitivity will be assessed to enable extraction rates to be limited and/or sustainable yields will be revised to protect these ecosystems.

Delivery of regulated supply

In regulated rivers, the supply of allocation water downstream from the headworks storage during the irrigation season can result in quite stable flows for long periods. These flows eliminate natural water level variation and flow pulses that otherwise would trigger important ecological processes. New South Wales has found that the higher the supply flows are relative to channel capacity, the more often damage is done. River flows typically break out into adjacent wetlands when the flow level is in the top 10–20 per cent of the channel, for example, so the State water management outcomes plan therefore aims to keep supply flows below this level to reduce the damage.

Natural drying of terminal wetlands

The major terminal wetlands of the Gwydir, Macquarie and Lachlan systems have been receiving unnatural flows during dry periods resulting in unnaturally wet central areas of these wetlands and preventing the natural drying cycle. To restore drying phases in these core wetland areas, the State water management outcomes plan calls for more stringent management of regulated water and pulsing or piping of stock and domestic supplies.

Submissions

The New South Wales Irrigators Council (2002, submission 12) raised the following issues with the environmental targets contained in the interim State water management outcomes plan. It argued there had been a lack of consultation, and expressed serious concerns about the timing and the nature of the targets. The submission argued that the Council should consider the State water management outcomes plan's relationship with the water sharing plans. Concern was expressed that water management committees were allowed to complete at least 75 per cent of their local planning process before

the overarching State plan of targets, which the committees need to address in finalising their plans, was released. It was argued that, either local plans should have been finalised and implemented before the State water management outcomes plan was developed, or the overarching plan should have been developed and provided to the committees before they started their processes. The New South Wales Irrigators Council claims that it cannot comment on specific State water management outcomes plan targets without the definitive scientific data that the Department of Land and Water Conservation and others used to identify and justify most of these targets or to understand the specific (and measurable) environmental benefits the targets will deliver.

The World Wide Fund for Nature (submission 13) queried whether the water sharing plans may be finalised before the overarching state plan. It considered that the lower level water sharing plans must be an interim measure until the higher level plan (the State water management outcomes plan) is finalised. The State water management outcomes plan is five years in duration, while the water sharing plans are in force for 10 years. The World Wide Fund for Nature argued that the review processes should be coordinated.

Discussion

New South Wales has advised that the targets for the State water management outcomes plan have been developed with regard to:

- flow and water diversion impact analysis using integrated quantity and quality modelling;¹³
- current scientific literature and advice including the findings of the 1998 statewide stressed rivers assessment undertaken across 500 subcatchments;
- State and national policies and guidelines;
- impact/cost considerations, including the relative importance of the different targets; and
- the views of the peak stakeholder group representatives and relevant New South Wales Government agencies.

While the annual diversion limit targets in the State water management outcomes plan are essential for slowing or limiting environmental degradation, they cannot address the more localised impacts of extraction on

¹³ The integrated quantity and quality modelling approach is used by the Murray–Darling Basin cap, the Queensland Government, the Mekong River Basin Commission and the global water engineering corporation, Lyonnaise Des Eaux Astran.

the pattern and frequency of high, moderate, low and seasonal flows. The New South Wales interim environmental objectives released in 1999 identified low flow protection (objective 2), the restoration of high flows (objective 3) and flow variability (objective 6) as three of the most critical aspects of the flow regime, and there is increasing evidence that variable flow regimes are critical to water-dependent ecosystems. The water sharing plans are intended to address these local impacts.

The State water management outcomes plan also recognises that the greatest impact of water extraction is typically at the end of a river system, given the cumulative effects of upstream dams and pumps. The recommended flow targets therefore apply to the end of each system or, in the case of those systems that terminate in a wetland or estuary, the estimated inflows to that wetland or estuary. In the case of unregulated rivers, the end of system is the downstream point of each nominated management unit or subcatchment. The targets refer to the daily flow frequencies based on the whole-of-year statistics. A water sharing plan may seek to improve either the whole-of-year statistic and/or those for critical months beyond these levels.

The New South Wales water reform process recognises that the science of water management is constantly improving. A truly scientific approach must therefore adopt an active adaptive management approach. The Water Management Act and the water sharing plans being developed reflect this approach by incorporating:

- explicit assumptions about the nature of the system being managed;
- substantial decisions to provide for learning about systemic responses;
- decisions that are fixed for a reasonable period of time to discern systemic responses from natural variation; and
- monitoring and auditing to quantify outcomes and reject or accept hypotheses.

The Council's 1999 NCP assessment forecast a 7 per cent reduction in diversions in the long-term as a result of the interim environmental flow rules. The interim State water management outcomes plan shows the actual impact on diversions of the flow rules ranges from 3 per cent (for the Namoi River) to 17 per cent (for the Macquarie River), and up to 5 per cent for the remaining rivers. The plan contains targets that call for a 10 per cent improvement in the frequency of 'end of system' flows where this is less than 60 per cent of predevelopment levels. At the time of writing, draft water sharing plans for the Namoi, Lachlan, Murrumbidgee, and Gywdir regulated rivers provide a marginal improvement in environmental allocations, but still are some way from reaching some of the targets in the State water management outcomes plan.

At the time of writing, the targets in the State water management outcomes plan (including the environmental targets) are being reviewed. This review is to address issues raised during consultation with stakeholders and the use of the plan by water management committees. Some changes to the plan are

expected, with many of the changes designed to clarify the intent of the targets. The revised targets will go back to water management committees for their recommendations with a view to the State water management outcomes plan being finalised in September 2002. The Government believes that the changes made in finalising the State water management outcomes plan will not affect the viability of the water sharing plans.

The State water management outcomes plan sets both long term outcomes and five year management targets for water resource management. It is a guide for planning. The targets do not seek to establish an ultimate position or standard for each water sharing plan but rather to establish a significant but practical step in the process of continuous improvement. Not all targets will be relevant to every plan. The State water management outcomes plan process is being run in parallel with the water planning process on an iterative basis.

Assessment

Given likely further movement on the targets between the interim State water management outcomes plan and the final plan, the Council has insufficient information to conclude that the State water management outcomes plan targets meet the State's NCP commitments. The Council does, however, support the direction the plan is taking. It will assess the final State water management outcomes plan as part of a 2002 NCP supplementary assessment to be conducted by the end of the year, including how the plan's targets are incorporated in the final water sharing plans.

Provision for the environment: water sharing plans

Outstanding issue: The Council is to assess the timeliness and the quality of the reforms achieved in the first round of water sharing plans (covering 51 water sources) against the national principles for the provision of water for ecosystems.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

A key requirement of the CoAG water agreement is to ensure action is taken where river systems are overallocated or stressed, to provide a better balance in water resource use. Such action includes appropriate allocations to the environment to enhance or restore the fundamental health of river systems.

New South Wales is in the process of finalising some 39 water sharing plans for areas of high stress or high conservation that will lock in water sharing arrangements (including for the environment) for the next 10 years. The development of these water sharing plans is a significant undertaking. The government has been active in seeking ways in which to develop its understanding of relationships between flows and ecological health.

In the 1999 NCP assessment, the Council assessed the 1998 New South Wales interim environmental flows for all regulated rivers. The Council was then satisfied that New South Wales had met its minimum commitments to act on stressed rivers for the 2001 NCP assessment. These environmental allocations were in year three of the original five-year flow settings.

For the 2002 NCP assessment, the Council will examine the outcomes of New South Wales water sharing plans, which are to improve outcomes of the original environmental flows from 1998, and establish new environmental flow provisions for key unregulated and groundwater systems. The Council will assess these plans against the national principles in terms of the timeliness and quality of the reforms achieved.

New South Wales arrangements

Section 8 of the Water Management Act specifies three classes of environmental water. The core provisions of a water sharing plan must deal with the establishment of environmental water rules in relation to:

- **environmental health water** — water that is committed for fundamental ecosystem health at all times and may not be taken or used for other purposes;
- **supplementary environmental water** — water that is committed for specific environmental purposes at specific times or circumstances, but may be taken at other times and used for other purposes; and
- **adaptive environmental water** — water that is committed for specific environmental purposes through an access licence.

Plans may also contain provisions dealing with the preservation and enhancement of water quality in the water source in the region, and with the monitoring and reporting requirements to be imposed as conditions of approval within an area.

New South Wales released water policy advisory notes (see attachment 3) to assist the water management committees in developing the water sharing plans. The policy advisory notes relevant to the provision of water for the environment cover:

- water extraction volumes and daily flow shares in unregulated rivers;
- groundwater-dependent ecosystems;

- **integration of water quality and river flow objectives in the water sharing plans;**
- **conservation of aquatic and riparian biodiversity, and threatened species management; and**
- **incorporation of the weir review program results in the water sharing plans.**

New South Wales has agreed to broad river flow objectives (see table 2.4) to be applied to all river systems in water sharing plans. These objectives aim to safeguard river flows for environmental health.

Table 2.4: New South Wales river flow objectives

Objective 1	Protect natural water levels in pools or creeks and rivers and wetlands during periods of no flow.
Objective 2	Protect natural low flows.
Objective 3	Protect or restore a proportion of moderate flows, 'freshes' and high flows.
Objective 4	Maintain or restore the natural inundation patterns and distribution of floodwaters supporting natural wetland and floodplain ecosystems.
Objective 5	Mimic the natural frequency, duration and seasonal nature of drying periods in naturally temporary waterways.
Objective 6	Maintain or mimic natural flow variability in all rivers.
Objective 7	Maintain the rates of rise and fall of river heights within natural bounds.
Objective 8	Maintain groundwaters within natural levels and variability, critical to surface flows or ecosystems.
Objective 9	Minimise the impact of in-stream structures.
Objective 10	Minimise the downstream water quality impacts of storage releases.
Objective 11	Ensure river flow management provides for contingencies.
Objective 12	Maintain or rehabilitate estuarine processes and habitats.

Source: New South Wales Government (2001b)

All plans identify the ecological features and high conservation zones, and their water requirements. These requirements include those wetlands, water plants, riparian vegetation, floodplain and channel connectivity, fish, water birds, macro-invertebrates and other aquatic species and fauna. Additional extractions from high conservation zones are prohibited.

The committees were also required to consider threatened species where known. A number of plans provide for collecting new scientific information on the potential effects of current or proposed flow regimes on threatened species, and for examining these effects during the review of plans (including preliminary determinations). Attachments to the plans set out the current knowledge on threatened species.

Floodplain harvesting reduces the amount of water reaching or returning to rivers resulting in impacts on the environment and downstream users. New South Wales intends to license and manage the taking of water from

floodplains over the next couple of years. Water sharing plans, however, specify that floodplain harvesting in their area is not subject to the provisions of the plan and has not been included in the diversion limit.

Most plans have been on public exhibition from regional offices across the state and on the Department of Land and Water Conservation's website. Public consultation on these plans was originally expected to be largely complete by the end of May 2002. Three committees (for the Orara River, Lower Murray Aquifer and Great Artesian Basin) have been given an extension of time to undertake additional studies and consult with affected communities before their plans are publicly exhibited. The Government intends all remaining plans to be in operation for the 2002-03 water year.

The following discussion considers the general approaches to providing for the environment in the water sharing plans for regulated and unregulated rivers and groundwater systems. The water advisory notes (attachment 3) contain further details on what is to be achieved for the environment in the first round of plans.

Regulated rivers

For the very low flows in regulated rivers, environmental health water will be set aside for environmental requirements consistent with river flow objectives 1 and 2. The environmental provisions vary with the features of each water source and typically include minimal flow targets at key points, "translucent dam" management rules (passing a proportion of the dam inflows) and environmental contingency allowances (a volume held in storage used to meet specified environmental outcomes).

For the regulated systems, the water sharing plan sets an average annual diversion limit as part of the bulk access regime after accounting for water requirements for achieving environmental health. If extractions exceed the diversion limit, then such growth will undermine the plan's environmental objectives. Supplementary water access must be granted only after all environmental flow requirements specified in the plan and the demands of all high priority right holders have been met. Wherever possible, plans should specify the thresholds that must be satisfied before access can be permitted, along with the basis for calculating available volumes and the rules for allowing water sharing.

Unregulated rivers

New South Wales is establishing daily flow shares for the unregulated rivers. Consistent with the precautionary principle, New South Wales is generally allocating 70 per cent of the water to the environment and 30 per cent to extraction, and giving priority to defining environmental health flows. The water sharing plans for the unregulated rivers will generally provide for three flow classes (A, B and C) and then set daily flow shares based on a daily flow

regime. Water extraction volumes will form the basis for protecting river health and for sharing available flows among competing users.

For some unregulated rivers, however, the whole-of-year 95th percentile may be a relatively high volume, and setting very low flows up to this level could have significant effects on irrigation. The whole-of-year 95th percentile could be higher than the 80th percentile critical month flow, for example, resulting in the elimination of any A class flow. In these cases, the 95th percentile for the critical month only (or some value in between) may be used to define the very low flow level.

For the unregulated systems, water sharing plans describe flow sharing rules in terms of flow outcomes for end-of-system reference points. The first stage of setting flow extraction volumes is to decide on the amount of flow in each flow class that can be extracted without threatening river health or reducing (below reasonable levels) access to existing users. Bulk extraction volumes are then used to establish the total amount of water that can be extracted each day from each flow class by all users in a subcatchment. These limits ensure an appropriate level of protection for the environment. Water sharing plans must determine peak daily demand for current and full development of licences. Current demand is used to determine bulk extraction volumes. Full development demand may be used to distribute bulk extraction volumes to licences as daily flow shares.

Pending better information, diversion limits in coastal systems that are already subject to a licence embargo should be set at the total annual licensed volumetric entitlement for all licence holders. In unembargoed systems, the limit will be the target level at which an embargo would be put in place. Where assessment indicates that full development of all current entitlements would be a significant threat to the environment, a diversion limit lower than the sum of licensed entitlements may be determined.

Flow classes and the bulk extraction volumes are intended as the means to deliver river flow objectives, particularly the protection of low flows and the mimicking of natural flow variability. An assessment of pool habitats and low flow connectivity should be conducted to verify that the proposed flow limit is achieving the required environmental objectives. This assessment could be based on a range of sources, including expert opinion; ideally, it should be from field valuation. For each subcatchment, there is a need to tune the extent of the very low flows and class boundaries for local hydrology, identified conservation values, specific environmental requirements and practical considerations to ensure delivery of the flow objectives.

Groundwater

For groundwater systems, the use of groundwater in a water source or zone is to be managed within the sustainable yield. Water sharing plans must identify and protect significant groundwater-dependent ecosystems and recommend a proportion of the natural recharge to be allocated for environmental purposes. The environmental provision will vary according to

the system characteristics and the significance of dependent ecosystems. Localised rules for protecting groundwater-dependent ecosystems may also apply and may relate to establishing buffer zones around dependent ecosystems, maximum limits to which water levels can be drawn down, and a minimum distance from a connected river, creek or other dependent ecosystem from which a bore could be sited.

Submissions

The Council has received submissions on the environmental aspects of the water sharing plans from the World Wide Fund for Nature (2002, submission 13), the New South Wales Irrigators Council (2002, submission 12), and Robert Caldwell (2002, submission 5). The World Wide Fund for Nature (submission 13) argued that it should be a high priority for the Council to determine whether plans meet the national principles for the environment. It noted dissenting reports on the proposed environmental outcomes for the Murrumbidgee and Gwydir water sharing plans.

The New South Wales Irrigators Council (submission 12) argued that many plans contain little scientific data and that planning decisions have been made using the precautionary principle. Unless committees are rigorous in target setting and benchmarking, and committed to monitoring, it was argued they will be no wiser in decision-making in 10 years: allocating 10–20 per cent more to the environment using the precautionary principle does not mean a committee has decided to more actively and adaptively manage environmental needs. The assumption in the process, it was argued, is that more for the environment is better when there are no science or environmental health targets, and this is not in line with shifting water to highest value uses. The submission argued that the Council should consider the scientific basis for environmental provisions and examine whether the plans identify specific environmental values or characteristics to be enhanced or protected. It was alleged that the draft plans fail to describe the current status of environmental health benchmarks, and lack performance indicators and monitoring requirements.

Robert Caldwell (submission 5) argued that it is unrealistic for the environmentalists to ask for the environment to be restored to pristine condition while rural communities are paying for 95 per cent or more of the Government's environmental strategies.

Discussion

At the time of writing, 36 of the 39 draft water sharing plans had been put out for public consultation. For the latest round of consultation, submissions closed 31 July. Ten working days after the close of submissions, the Government is making available to the committees the public submissions on their plan and a summary of the issues raised. The Government also provides: an analysis of the plan's compliance with the State water

management outcomes plan; a draft of the legislation that will give effect to the plan; and a draft of the first implementation program. The committees will be given six to seven weeks for deliberation (including efforts to resolve the Minister's notes) before making the final recommendation to the Minister. Committees must also recommend interim arrangements to apply from the start of the irrigation year until the final plans are gazetted. The New South Wales Government advised that it intends plans to be finalised and gazetted between September and November 2002.

The Council has examined the range of draft plans. There are numerous Minister's notes in a number of plans. The Council considers that some plans may change significantly between the draft and the finals, particularly given that the State water management outcomes plan targets are still to be finalised and that the Minister's notes raise a range of issues. The Council is therefore not in a position to assess whether the final water sharing plans comply with CoAG commitments. This is not due to lack of effort on the part of New South Wales, but because the plans must be finalised before the Council can reach a definitive conclusion. The Council's 2001 NCP assessment raised this issue:

'The prime concern the Council has with the New South Wales system is to ensure that while it is important for bulk access regimes to be established quickly, they must be done properly including the basis for determination of environmental flows to reflect the new 10 year timeframe under the [Water Management] Act. Otherwise, if the bulk access regime and environmental flow requirements are poorly addressed, the issues for the environment will not be addressed for another 10 years. Given the system New South Wales has adopted, and the extent of the problems, the Council is of the view that where a review of the implementation of a plan identifies the environmental objectives are not being met, there should be a change within the 10 year life and compensation (as required under the Act) paid where the identified change is significant.' (NCC 2001d, pp. 94–5)

The water sharing plans will build on the environmental flow rules already in place on the regulated rivers. The Council therefore thinks it is not unreasonable, given the State's efforts, to give New South Wales extra time to properly complete this important reform. These efforts include embarking on the most comprehensive stressed rivers assessment process in the country, passing legislation capable of providing significant outcomes for the environment and progressing a process for delivering water plans for more than 80 per cent of the State's water use. The Council will defer assessment of the final plans to a supplementary NCP assessment by the end of 2002. All issues raised in submissions will remain under consideration for that assessment.

To aid all parties in the possible directions of the 2002 supplementary assessment, the Council believes it is useful to point out some observations on the process so far and to identify where a number of plans may evolve in a way that might not comply with CoAG commitments. The Council notes that the plans have not been finalised and that the New South Wales Government

is working with committees to address these issues. The Council has limited its comments to those aspects of plans that are considered to be problematic.

The CoAG time frame calls for allocations to be in place by 2005. The Council notes, however, that some plans do not propose to deliver changes to existing licensed entitlements until year nine of the plan (such as the draft water sharing plan for the Lachlan groundwater source).¹⁴ While the water management rules would take effect immediately for these groundwater systems, including water for the environment, the provisions to reduce licensed entitlements is proposed to be delayed by the plans for these particular systems. These provisions have attracted a Minister's note. Further, the Council has found Minister's notes in a number of plans, where the provisions are 'contrary to ss 5(3) and 9(1) of the Act which prescribes the priority for water sharing is firstly to protect the water source and its dependent ecosystems'. The Council will pay particular attention to these issues in the end of 2002 supplementary assessment, to ensure adequate environmental provisions will be provided in the required time frame.

The plans for unregulated rivers provide for environmental health water by allocating a proportion of flows for very low flows and for the A, B and C class flows proposed to be established. They also provide cease and commence pump levels. In many plans, the basis for setting a particular flow level is not clear. While hydrological modelling has occurred, some plans do not clearly specify how environmental requirements have been identified or how the proposed flow rules will satisfy those requirements. New South Wales has advised that there was no modelling for these water sources as there is very poor data available. A decision was therefore taken to allow a proportion of each flow class as defined by points on a flow duration curve to be established (see attachment 3, figure 2.2). The proportions have been well debated in the committee for its socio-economic impacts and takes account of known environmental features. Field verification of very low flows will also take place. The interim State water management outcomes plan, however, identifies a number of unregulated rivers where entitlements greatly exceed 200 per cent of the average annual long-term diversion limit. The current round of unregulated river plans do not adequately indicate where entitlements under the plan would be in relation to this diversion limit or what environmental outcomes may be expected from the proposed flow sharing rules.

The draft groundwater plans examined by the Council appear to provide allocations for the sustainable management of associated groundwater-dependent ecosystems where ecosystems have been adequately described and their water requirements have been identified. Where the extent of ecosystem dependence is unclear, the plans allocate up to 100 per

¹⁴ For the Lachlan groundwater sharing plan, the committee recommended that 20 per cent of the long term annual average recharge be set aside as an environmental provision for the aquifer and 80 per cent be available for extraction. The plan proposes waiting until the final year of the plan, however, to implement reductions in extractions.

cent or more of the sustainable yield to consumptive use.¹⁵ The Council has been unable to find a definition of a 'significant' groundwater-dependent ecosystem. This approach seems counter to the fourth principle of the New South Wales groundwater-dependent ecosystems policy, which states that:

Where scientific knowledge is lacking, the precautionary principle should be applied to protect groundwater dependent ecosystems. The development of adaptive management systems and research to improve understanding of these ecosystems is essential to their management.
(Department of Land and Water Conservation 1998, p. 8)

The committees developing some plans acknowledged a lack of information concerning groundwater use by ecosystems, and they have proposed further work to address this knowledge gap. The outcomes of this work can be taken into account at the five-year review of the plan.

In examining the draft plans, the Council's main emphasis has been on the regulated rivers where 80 per cent of diversions in New South Wales occurs. The Council notes that the plans provide, at best, for a marginal improvement in environmental allocations above existing levels for the Murrumbidgee, Lachlan, Namoi and Gwydir rivers, based on the principle of continuous improvement. New South Wales has indicated that the first round of water sharing plans is unlikely to deliver all of the water needed for the environment within the first State water management outcomes plan.

The Council is concerned that some water management committees have been unable to address water allocation-related environmental issues in their initial draft plans. As an example, specific concerns have been raised about the Namoi River and the Murrumbidgee River plans. These issues have also been raised in Minister's notes.

The draft water sharing plan for the Namoi River indicates that the overall health of the river is not good, and suggests that a significant improvement is required. The recommendations of the draft plan, however, would result in preserving the existing balance of water shares between the environment and water users, which resulted from the 1998 application of the first set of environmental flow rules. The draft plan indicates that these environmental provisions make only a marginal improvement to flow conditions compared with the base case (the 1993-94 conditions under the Murray–Darling Basin cap on water diversions). The interagency assessment panel that reviewed the plan concluded that it is unlikely to maintain the ecological health of the Namoi River.

¹⁵ Where groundwater-dependent ecosystems are not expected to exist in any significant form, the draft plans allow consumptive use to be allocated to the full natural recharge of the aquifer. New South Wales has advised that only the Namoi groundwater plan does this. In all other groundwater systems, the environmental provision contained in the draft plan varies between 15–80 per cent. Where the extent of ecosystem dependency remains to be confirmed, further research is proposed. The Namoi, Mid North Coast and Lachlan groundwater management committees, for example, have proposed further studies within the life of the plans.

The draft plan for the Murrumbidgee River if implemented in its current form also would result in preserving the balance of existing shares between the environment and consumptive use, which similarly resulted from the 1998 application of the environmental flow rules. The environmental provisions will make a marginal improvement to flow conditions compared with the base 1993-94 year. Some water management committee members clearly considered that the relative shares between the environment and water users are unlikely to maintain or improve the ecological health of the Murrumbidgee River. This was also the view of the interagency assessment panel that reviewed the draft plan. The plan seems to lack clearly defined environmental management objectives, triggers and rules for the release of water for environmental purposes. Further, the environmental water rules in the draft plan focus on providing flows to wetlands in the middle reaches of the river system. The Minister's notes in the draft plan indicate that significant wetlands on the lower river floodplain below Maude are not targeted for allocations by the plan and receive a greatly reduced water supply. The plan does not address water for other ecological requirements, and does not fully maintain the mimicking of natural flow variability below Burrinjuck Dam.

For the 2002 NCP assessment, the Council found transparency issues in ascertaining how the committees developed the outcomes they have recommended. There is little technical information available to the broader community on how the flow volumes in the plans have been set. While hydrological modelling was used, it is often difficult to see how the proposed flow rules and allocations are linked to achieving environmental outcomes, or the extent to which those outcomes may be achieved. The manner in which environmental science has been considered and incorporated is not transparent. Examples arise in the Hunter River plan, which establishes a 22 gigalitre annual contingency allowance for managing critical (contingent) environmental events such as algal blooms, fish migration, stoney bed scouring and chemical spills. It is unclear to the Council from the draft plan how the volume was determined and how it will be used. The Hunter draft plan also establishes a rule that allows no more than 50 per cent of the flow measured at designated sites in each river reach to be extracted on any day, and that sets an absolute volume on access so no more than 30 per cent of the natural high flows on average will be extracted in a year. It is not clear how the committee arrived at this rule.¹⁶

In the 2001 NCP assessment, the Council deferred its assessment of New South Wales progress on stressed rivers against the national principles for the provision of water for ecosystems. For this 2002 NCP assessment, the Council has again decided to defer an assessment of progress against the national principles until the final water sharing plans are in place. A full

¹⁶ New South Wales has advised that the various combinations or rules resulted from debate on issues and options within committees. The committees consider impacts and determines a recommendation over an 18 month period.

assessment of this area of the final plans will occur in the NCP supplementary assessment to be conducted by the end of 2002.

On the basis of the draft water sharing plans that have been released for public exhibition, the Council can infer that some plans in their present state may not meet the requirements of a number of the national principles. A particular concern to the Council is how the requirements of national principles 4 and 5 are being addressed. Principle 4 states that where there are existing users in a system, the 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 while recognising the existing rights of other water users. The draft plans are what the committees consider to be what is possible at this time recognising the existing rights of other water users. The Council also recognises that for most of the draft plans, what is being considered is a significant improvement for the environment on the past. Principle 5 states that where existing users prevent environmental water requirements from being met, action (including re-allocation) should be taken to meet environmental needs. New South Wales has advised that every draft plan is explicitly providing for some level of environmental gains.

The interim environmental flow rules established in 1998 have achieved, on average, a 3–5 per cent improvement in environmental flows for the regulated river systems. The Council, on reviewing the draft plans for the regulated rivers, considers it unlikely that the plans will be able to provide all the water needed by the environment to meet the interim State water management outcomes plan targets, but would nonetheless go some way towards providing the necessary environmental water. The Council observes that the proposed plans may contribute a further 2 per cent above present conditions. In aggregate, the total flows returned to the environment between 1998 and 2012 will be between 5–7 per cent.

The environmental allocations proposed in the draft plans for regulated rivers such as the Murrumbidgee and Namoi rivers would be unlikely to meet the national principles for the provision of water for ecosystems. In these draft plans, the requirements of existing users seem to have been the predominant factor in determining allocations to the environment. New South Wales has acknowledged that some plans are problematic and are working with the committees to look at options.

The Murrumbidgee draft plan essentially would preserve the existing balance of current water shares between the environment and water users, which resulted from the environmental flow rules applied in 1998. The Minister's foreword to the draft plan states that some committee members consider that the relative shares between the environment and water users are unlikely to maintain or improve the ecological health of the Murrumbidgee River. This was also the view of a Government assessment panel reviewing the draft plan. The plan's environmental water rules focus on providing flows to wetlands in the middle reaches of the river and ignore significant wetlands on the lower river floodplain. Further, the plan does not allocate water for other ecological requirements.

This draft plan does not specify environmental management objectives, triggers or rules for the release of water for environmental purposes. It states that the environmental condition of 38 per cent of the length of the Murrumbidgee River has been significantly impaired. Some 61 per cent of the impaired sections has since been moderately modified and 37 per cent has been significantly modified. Further, in December 2001, the aquatic ecology of the Lower Murray River Catchment was declared an endangered community under the *Fisheries Management Act 1994*. This area includes the Murrumbidgee River downstream of Burrinjuck and Blowering Dams.

A further concern is that some rules for environmental water provisions are made contingent on supplies to water users and are generally tied to the resource availability for water users rather than need. The draft plan treats all flows to the Lowbidgee — the major wetland area associated with the river system — as supplementary access water, which has the lowest priority of all water in the water source. The Council considers that there are considerable problems with the draft plan. The draft Murrumbidgee plan notes that water user representatives do not support reductions in general security water access to provide for the Lowbidgee wetland. This approach is contrary to the Water Management Act, which specifies that the environment has first priority.

The Minister's notes for some of the regulated systems point out that the drafts do not define the triggers and rules for the delivery of supplementary environmental water, or the environmental considerations for the declaration of access to supplementary water. Without this information, the availability of water for both river health and extraction by irrigators will remain ill defined and subject to discretion. New South Wales is working with the committees to address this issue.

For the unregulated systems, the Kangaroo River draft water sharing plan contained a social and economic study — conducted by consultants on behalf of the committee — on the immediate impact of the 'cease to pump' rule on local irrigators and dairy farmers. The study included a cost-benefit analysis of the nonconsumptive water users of the plan. The committee agreed to gradually introduce the 'cease to pump' levels over the first three years to allow water users to introduce water management practices consistent with the 'cease to pump' level at year three. The committee also agreed to allow licensed water users access to very low flows after seven days of cease to pump (drought access) for a limited period to ensure crop survival. The committee agreed that drought access should be phased out in the last month of the plan.

The recommendations in the draft plan would allow water users to extract water from the very low flow range during drought years, when river flows are less than the 'cease to pump' levels. The measure is proposed to continue until the last month of the plan's term — an approach that is not consistent with the Water Management Act, which prescribes the first priority for water sharing plans as being to protect the water source and its dependent ecosystem. These provisions in the plan have attracted a Minister's note that

the recommendations do not comply with the Act and conflict with the Government's flow objectives, which target the protection of low flows.

A number of problems have arisen in the processes that New South Wales has been using to establish the State water management outcomes plan and the water sharing plans. A number of submissions to the Council raised concerns with the timing of the State water management outcomes plan, which has not yet been finalised.

It was the original intention of New South Wales to finalise the State water management outcomes plan in advance of the water sharing plans. This has not occurred. The timing of the release of the interim State water management outcomes plan and delays in its finalisation has affected the water sharing planning process. New South Wales has advised that the targets in the interim State water management outcomes plan were fed into the water sharing planning process and, therefore, most of the plans will comply with the State water management outcomes plan. In some cases, local committees have not addressed all relevant targets. These committees will justify their decisions and the reasons will be considered by the Minister in finalising the plans. Nevertheless, the targets in the State water management outcomes plan are still changing and it is unclear how the changes will be reflected in the final water sharing plans.

There has also been a question concerning the timing of the release of key sources of technical and scientific information in the development of the process. For example, the Council notes the following in the Kangaroo River draft water sharing plan.

The New South Wales Government has prepared a State water management outcomes plan and advisory notes to water management committees...The outcomes plan and advisory notes have been prepared to provide strategic direction and guidance to the Committee in preparing recommendations on water sharing. They were, however, not made available to the Committee in time to influence deliberations. (Kangaroo draft water sharing plan 2002, p. A2)

The New South Wales Irrigators Council argue there have been deficiencies in the public consultation process in developing the State water management outcomes plan targets and do not accept that a genuine attempt to involve all stakeholders in the development of the State plan has occurred. They argue that assessing the water sharing plans for compliance with the State water management outcomes plan targets and then asking committees to justify or amend their position is not 'consultative'. It would have been better to ask the committees whether the targets in the State water management outcomes plan were achievable and appropriate for their river systems.

New South Wales has indicated that there are some areas where the planning process could be improved, for example, the early availability of technical and scientific information. There may be a need to look at how the committee process operates due to the tremendous pressure on committee members. A survey of the committees is currently taking place to assess the existing planning process. This will lead to improvements for the next round of plans.

In the case of the unregulated rivers, New South Wales is considering whether the daily flow shares model may be too detailed and complex for rivers where there is little environmental risk and whether a more simplified approach may be more appropriate.

New South Wales has advised that the timeframe for the next round of plans is under review and that a commencement date is not known. There may need to be a formal review of the process from the first round of plans before consideration of the next round of water sharing plans. While this first round of water plans covers 80 per cent of all water use, the next round will target the remaining unregulated and groundwater stressed systems.

Assessment

In this 2002 NCP assessment, the Council has examined some of the draft water sharing plans proposed by the water management committees. It has raised its concerns about timeframes for achieving sustainable resource use and the lack of transparency in water sharing decisions. The New South Wales government will need to address these matters in finalising the plans, and they will be key areas for consideration in the 2002 NCP supplementary assessment to be conducted by the end of the year.

The Council believes that the proposed provisions in some draft plans may lead to a marginal improvement in the conditions of stressed river ecosystems. For the end of 2002 NCP supplementary assessment, the Council expects to see final plans contain environmental allocations that ultimately provide for an improvement in the condition of the rivers. The Council draws particular attention to the Namoi and Murrumbidgee river draft water sharing plans as needing modification before the Council can be satisfied the State has met its NCP obligations.

In relation to monitoring and performance indicators for the plans, at the time of writing the New South Wales Government was yet to develop generic performance indicators for each water source,¹⁷ and so all drafts contain Minister's notes that these indicators are still to be finalised. These performance indicators have implications for the development of monitoring arrangements to deliver the objectives of the water sharing plans. These performance indicators will also be assessed in the 2002 supplementary assessment, as a key issue for the delivery of the final water sharing plans.

¹⁷ These are being developed and will include indicators for low flows, moderate to high flows, ecological health (generally or for specific ecological communities or habitats), water quality, the economic benefits of consumptive water use, equity among licence classes, basic rights, and town water supplies.

Progress report issues

Full cost recovery: urban

Progress report: A review of any updated nonmetropolitan urban pricing guidelines

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clauses 3(a) and (b); CoAG pricing guidelines

Background and New South Wales progress

The Council has previously raised concerns about the approach used by nonmetropolitan urban service providers with regard to asset renewals and optimisation of asset values, inclusion of externalities in water prices and the identification and reporting of cross-subsidies. The Council noted that one mechanism for addressing this issue would be to expand the 1996 nonmetropolitan urban pricing guidelines that were developed by the Independent Pricing and Regulatory Tribunal.

Externalities and cross-subsidies are discussed in the following sections. In the case of asset values it is not clear that local governments use a depreciated optimised replacement cost (DORC) approach. Similarly, the Council has insufficient information on the methods local governments are using to provide for asset renewals.

In 1996, the Independent Pricing and Regulatory Tribunal published common pricing principles for determination of local water supply and sewerage charges by local governments. New South Wales has advised that these principles have ongoing relevance. While the tribunal has no regulatory responsibilities for nonmetropolitan urbans, water activities are ringfenced from all other local government activities.

New South Wales reports that there are other instruments that complement the nonmetropolitan urban guidelines including:

- ongoing training and information programs operated by the New South Wales Water Directorate;
- financial management advice and software development provided by the Department of Land and Water Conservation in support of the various handbook materials;
- statutory requirements for local government management planning and service accountability to ratepayers and residents;
- financial oversight provided by the Department of Local Government; and

- **management guidelines including a strategic business planning manual (Public Works Department 1993), environmental management guidelines (DLWC 1997) and a water wise management manual (DLWC 1998).**

The New South Wales 2002 NCP annual report states that the Department of Land and Water Conservation and the Independent Pricing and Regulatory Tribunal agree there is no urgent need to update the guidelines or business planning documents, as the general pricing principles continue to apply to nonmetropolitan urban water activities. However, New South Wales has not proposed any alternative mechanisms for dealing with the concerns raised by the Council

Full cost recovery: externalities

Progress report: Developments in factoring externalities into pricing by urban service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Background

The CoAG pricing guidelines require externalities to be incorporated into prices. The Council recognises that this is a complex and difficult area, particularly in the urban sector. The Council views the first step as ensuring prices reflect an appropriate proportion of the costs of mitigating environmental problems of water use. The more advanced stage is a holistic approach to dealing with externalities, where pricing is only one component. As noted by the High Level Steering Group on Water (2000), externalities need to be addressed using a 'portfolio of decision tools'. Implementation of the Water Management Act is a significant step that applies both regulatory and cooperative planning approaches to support the pricing tool.

Metropolitan providers

A 5 cent per kilolitre catchment levy, to be used to fund improved catchment management, was considered as part of the Independent Pricing and Regulatory Tribunal's 2000 Sydney Catchment Authority determination. The Tribunal concluded, however, that the determination provided sufficient revenue for the Sydney Catchment Authority to undertake its current and known future activities. The Council suggested that this matter could be revisited in the future at which time potential arrangements for passing through such costs to final customers could be considered.

All Hunter Water Corporation customers (with the exception of pensioners) pay an environmental improvement charge of \$40 per year. The charge assists with the funding of the Hunter sewerage project (IPART 2000b).

Nonmetropolitan urban providers

There is limited guidance to the nonmetropolitan urban water service providers on externalities. The Council noted it would monitor advice on provisions for externalities in the future. The 1996 Independent Pricing and Regulatory Tribunal guidelines for nonmetropolitan urban providers were released before the CoAG pricing guidelines were developed. While the tribunal's guidelines are consistent with the intent of the CoAG water reforms, the Council has suggested there may be advantages in updating these guidelines.

New South Wales progress

New South Wales advises that pricing determinations by the Independent Pricing and Regulatory Tribunal have generally included externality costs where efficient expenditure is actually incurred by an urban provider to address such externalities. For example, the Sydney Catchment Authority's bulk water charge to the Sydney Water Corporation includes a significant component for catchment management and remediation. Similarly, in reviewing the cost base of the other urban providers it regulates, the Tribunal has generally allowed efficient costs for the management of environmental externalities.

The extent of externalities covered by water and sewer prices is linked to the standards set by regulators. This is best illustrated in terms of environmental externalities. Over the last decade, there has been a considerable tightening of the environmental standards applying to wastewater discharges and to raw (bulk) water extraction. The Hunter Water Corporation, for example, has incurred higher operating costs for the new wastewater treatment facilities to meet new Environmental Protection Authority standards. The older wastewater treatment plants were simple gravity-fed trickling filter processes with limited pumping (and energy use), aeration and chemical requirements. Modern wastewater plants require significant inputs of energy and chemicals and incur other costs such as those associated with transporting biosolids off-site for recycling and/or disposal. This illustrates how new regulatory and standard setting processes are addressing environmental externalities. These processes have the effect of "internalising" externalities with the cost now borne by utilities and their customers through the pricing of water and sewer services.

Sydney Water Corporation and Hunter Water Corporation's current price path ends in 2003 when the Tribunal will again consider quantifiable costs, including externalities in determining a new price path.

As noted earlier, the New South Wales 2002 NCP annual report states that the Department of Land and Water Conservation and the Independent Pricing and Regulatory Tribunal are in agreement that there is no urgent need to update the nonmetropolitan urban guidelines or business planning documents, as the general pricing principles continue to apply to

nonmetropolitan urban water activities. The strategic business planning guidelines require utilities to identify their existing and proposed levels of service and to prepare a 30-year financial plan to demonstrate the long term sustainability of their business. The capital works program input into the utility's financial plan needs to be based on the utility's best assessment of required new capital works and renewal of existing infrastructure. A clear requirement is that they take account of any new environmental or regulatory requirements, including the requirements of the Water Management Act. The strategic business plan is the utility's principal planning document for water supply and sewerage and needs to be updated after three years. New South Wales argues that these updates would reflect changed environmental requirements in catchment and water management plans.

Full cost recovery: tax equivalent regimes

Progress report: Report on developments to implement tax equivalent regimes for metropolitan service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on tax equivalent regimes

Background and New South Wales progress

For the 1999 NCP assessment, the Council found that neither Gosford nor Wyong councils made provision for tax equivalent regime payments as recommended by the CoAG pricing guidelines. In the 2001 NCP assessment, the Council raised a concern that no further progress had been made on this issue. Further, very few nonmetropolitan urban providers pay tax equivalents.

New South Wales has advised that statutory requirements for ringfencing currently prevent the direct implementation of tax equivalent regimes and shareholder dividend payment regimes by local government water services. New South Wales has not provided the Council with any information on how it intends to meet the CoAG requirement that taxes or tax equivalents are included in water prices.

Cross-subsidies

Progress report: Progress in implementing reforms and identifying and reporting cross-subsidies

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clause 3(a)(i).

Background

For the 2001 NCP assessment, New South Wales reported considerable progress in eliminating cross-subsidies in metropolitan service provision.

Sydney Water Corporation's remaining nonresidential property value based charges are being phased out, with only \$12 million in revenue from these charges estimated to remain by 2003. Developer charges were used to recover the full costs of providing water and sewerage infrastructure to new development areas. These charges had reduced the scope for cross-subsidies in relation to new developments.

Both Sydney Water Corporation and Hunter Water Corporation had location-specific developer charges, which aimed to address locational cross-subsidies. Hunter Water Corporation had also introduced a location-based water usage charge for customers with usage exceeding 50 000 kilolitres per year.

For nonmetropolitan urban water service providers the Independent Pricing and Regulatory Tribunal guidelines note that property based charges and free water allowances provide the greatest potential for cross-subsidies. Therefore, the Council noted that in future assessments it would look for continued progress with removing property based values and free water allowances from service charges. Alternatively, evidence would need to be provided that these allowances and values do not lead to nontransparent cross-subsidies.

The 1996 nonmetropolitan urban guidelines, however, do not provide detail on identifying and reporting cross-subsidies. The Council noted that expanding these guidelines might be one way to address this issue for the nonmetropolitan urban sector.

New South Wales progress

For the 2003 NCP assessment, the Council will be looking for information on the mechanisms nonmetropolitan urbans are using to identify and transparently report cross-subsidies.

New South Wales has advised that almost all local government water services have conducted water service reviews over the past six years. These reviews have incorporated elements of strategic business planning, pricing reform, performance, service quality and the use of cross-subsidies. These reviews have generally led to the identification of full cost recovery pricing strategies, the adoption of full usage pricing and the elimination of cross-subsidies, where cost effective. The reviews do not seem to address the reporting of remaining cross-subsidies.

New South Wales has advised that the Department of Land and Water Conservation and the Independent Pricing and Regulatory Tribunal are in agreement that there is no urgent need to update the pricing guidelines or business planning documents. However, the best practice water supply,

sewerage and trade waste pricing guidelines are now being finalised by the Department of Land and Water Conservation, and these will include provision relating to the identification and disclosure of any remaining cross-subsidies.

Institutional reform: structural separation

Progress report: Progress to ensure that decision making in State Water is sufficiently separate from decision making on regulatory issues.

Next full assessment: The Council will next formally assess institutional reform in the 2003 assessment.

Reference: Water reform agreements, clause 6

Background

The Council's 2001 NCP assessment raised concerns about the level of separation between the Department of Land and Water Conservation and State Water. While New South Wales has argued that State Water's operating authority, statement of corporate intent and access authority would improve the level of separation and transparency these documents were still being finalised and, therefore, the Council could not consider them as part of the 2001 assessment.

The Council recognised that New South Wales had improved the level of information that was available to the Independent Pricing and Regulatory Tribunal as part of the most recent pricing review. However, changes were necessary not only to maintain the integrity of independent prices oversight but also to assist in the separation between the Department and State Water on natural resource management and regulation. While State Water is within a division of the Department the mechanisms that provide for separation need to be highly transparent and accountable to avoid real and perceived conflicts of interest. The approach outlined by New South Wales may assist the Independent Pricing and Regulatory Tribunal in undertaking its pricing review, however, it does not assist in dealing with broader structural reform issues that have been raised by the Council. A key concern is that much of the information appears to remain confidential between State Water, the Department of Land and Water Conservation and the Independent Pricing and Regulatory Tribunal.

The 2001 NCP assessment concluded that in order to meet its reform commitments, New South Wales will need to demonstrate to the Council that decision making in State Water is sufficiently separate from decision making on regulatory issue so as to avoid conflicts between regulation and service provision.

New South Wales progress

A minor restructuring of the Department of Land and Water Conservation has taken place. In its submission New South Wales argued that:

“Transparency in the operations of State Water as a business unit within the Department of Land and Water Conservation has been pursued through separate accounting entities and reporting lines. Arrangements are to be formalised through formal operating instruments.

The Minister for Land and Water Conservation has agreed to a review of the governance structure of State Water prior to finalising the proposed operating instruments.

It is intended that the review will:

- *utilise an independent consultant;*
- *be completed in mid 2002; and*
- *be overseen by Deputy Director General, Mary Jacobson, who has a private consulting accountancy background.”¹⁸ (New South Wales Government 2002, p.3)*

Submissions

The Council again received submissions that raise concerns about the level of structural separation between State Water and the Department of Land and Water Conservation.

The New South Wales Irrigators Council argues that there is a need for more detail in the separation of the commercial water delivery business of State Water from the regulatory role of the Department of Land and Water Conservation.

The World Wide Fund for Nature also states that it has concerns about the close relationship between the Department of Land and Water Conservation and State Water. It raises three issues. First, when agencies other than the department that incur environmental costs these costs are not invoiced to State Water. Second, the relationship can lead to a reluctance to undertake expenditure that may be needed to protect the environment. Third, responsibility for particular issues does not appear to be adequately

¹⁸ The Council has been advised that since the submission was made, Deputy Director General Jacobson has left the Department of Land and Water Conservation and alternative arrangements are being made to conduct the review. Progress has therefore been delayed.

demarcated and as a consequence neither State Water nor the Department of Land and Water Conservation is taking responsibility for some important issues.

Progress report: Implementation of mechanisms to improve the transparency in setting service standards and water quality in NMU service provision.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6

New South Wales progress

Because New South Wales has decided that independent regulation is not appropriate for smaller service providers, it is difficult to achieve full separation in this sector. As a result the Council is looking for transparency in standards and reporting to place pressure on local governments to improve their service standards and water quality. While there is an independent complaints mechanism, there is no requirement for a customer service charter or other mechanisms to inform customers of the obligations of their service provider or how they can make a complaint.

The New South Wales Government has noted that there is a water service regulation that sets out, in very broad terms, guidance and guidelines to move local councils to more customer responsive operations. Each year local governments are required to develop and publicly exhibit a management plan for their council's activities for at least the next three years, together with detailed budgets for the upcoming year. The management plan must include water service activities, objectives and performance targets, the means proposed to achieve objectives and targets and the processes by which the performance of the local government's water services will be evaluated.

However, the Council has not been provided with any further detail on these management plans. Consequently, the Council is not in a position at this stage to report on whether these management plans provide a suitable mechanism to set service standards transparently, inform customers of those standards and how they can make complaints.

Water trading

Progress report: Progress in resolving the limitation on trade out of regulated systems.

Next full assessment: The Council will assess intrastate trading arrangements in 2003, and interstate trading arrangements in 2004.

Reference: Water reform agreement, clause 5.

Background

In the 2001 NCP assessment, the Council found there are significant volumes of water transferred in New South Wales each year. The Water Management Act proposed to streamline the trading process and remove a number of key impediments. The Act was a clear improvement on the previous trading arrangements that contained a number of impediments to trade.

The Council identified some outstanding issues it would consider in the 2002 NCP assessment. It noted that as the new arrangements are progressively implemented, further assessments would be necessary to ensure New South Wales fully complies with NCP commitments. The 2002 NCP assessment would focus on property rights and their effect on trade, and the roll out of water sharing plans and the embodied trading rules. The Council would also look for progress in the resolution of the limitation on trade out of regulated systems.

Limitations on trade out of regulated systems

In the 2001 NCP assessment, the Council considered that the restrictions on trade out of irrigation districts was a key impediment to the expansion of water trading both within New South Wales and interstate. There should be minimal restrictions on the transfer of water. The Council notes that the CoAG water agreements place responsibility on New South Wales to remove impediments to trade. The reform framework, states:

'that constituents 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.' (clause 6(g))

While the Council supports the devolution of irrigation management, appropriate regulatory controls should be kept to ensure irrigation areas function effectively. This should include the ability to require change within the irrigation schemes where necessary to avoid market failure. New South Wales argues that there does not appear to be any firm evidence that the current arrangements are in fact restricting trade. Trades in and out of the corporations have occurred although no empirical data has been provided by New South Wales for this progress report. These corporations are privatised entities, whose articles of association are determined internally. New South Wales is not considering any moves to force such entities to remove any

aspects of their articles of association which might be deemed potentially restrictive.

Roll out of water sharing plans

The 2001 NCP assessment recognised that further development of trading arrangements would occur once the water sharing plans were finalised. Uncertainty over the changes necessary to develop and then implement these plans will continue to be an impediment to trade until they are implemented.

New South Wales progress

Limitations on trade out of regulated systems

In the 2001 NCP annual report, New South Wales noted that:

'With one exception, restrictions on trade in New South Wales are in place to deal with water delivery issues, environmental issues and/or potential adverse impacts upon other water users.' (NCC 2001d, p. 104)

The exception in question is the prohibition on trade out of irrigation districts by the irrigation corporations. This restriction limits trade out of an irrigation district so there is no net loss of water. New South Wales also suggests that the Department of Land and Water Conservation has no powers to forcibly remove this restriction, but is working with the corporations to address the issue.

This restriction is in place due to concern that trade out of the district will result in:

- a negative impact upon local production;
- reduction in the rate base for local governments;
- corresponding regional decline; and
- the loss of economies of scale for irrigation infrastructure, with remaining members required to assume a greater proportion of the fixed costs.

New South Wales has advised that the privatisation of irrigation schemes was a New South Wales reform commitment. Shareholders were directly involved in determining the rules under which the corporations would operate. The shareholders decided that trades would be limited to those approved by the boards of corporations on behalf of the shareholders. There have been permanent trades both in and out of the irrigation areas.

At this stage, New South Wales does not intend to re-regulate these private corporations so as to remove restrictions on trading in the absence of

convincing empirical evidence that the benefits of such regulation to New South Wales would outweigh the costs to the corporations and their shareholders.

Roll out of water sharing plans

Thirty six out of the 39 draft water sharing plans have now been put out to public consultation. The Council was provided with a copy of policy advisory note no. 15 – *Water Transfers*. This note was provided to the water management committees to be used as the basis for their recommendations on water trading in the water sharing plans. All water sharing plans will have trading principles built into them based on the transfer principles advice provided to water management committees in finalising the plans.

Submission

The World Wide Fund for Nature (2002, submission 13) raised the following issues. Water sharing plans should consider the environmental impacts of trades. These should be monitored, based on good science, and enforced. The submission also argues that trading has ambiguous net environmental impacts and hence trade should be undertaken with regard to the precautionary principle.

Discussion

New South Wales timetable for the completion of the current round of water sharing plans will mean that their detail, including provisions that affect trading, will be locked into place by the end of 2002. As a result, if the Council left formal assessment of this issue until June 2003 it would be too late to deal with any issues that emerge. Consequently the Council considers that it is most appropriate to assess the trading components of water sharing plans at the same time it looks at the issues pertaining to property rights, water allocation and provisions for the environment. These issues will be considered in the 2002 supplementary assessment.

To aid all parties in the possible directions of the 2002 supplementary assessment, the Council believes it is useful to point out where a number of plans may evolve in a way that might not comply with CoAG commitments. The Council notes that the plans have not been finalised and that the New South Wales Government is working with committees to address these issues. The Council has limited its comments to those aspects of plans that are considered to be problematic.

Many of the draft water sharing plans are not consistent with the transfer principles. The Council notes, for example, that the draft Lower Murray plan currently states that no permanent interstate trade of entitlements should occur without an equal trade from another State having already occurred.

There are also some significant trading impediments in the Lachlan draft sharing plan. The Department of Land and Water Conservation will need to negotiate with the Committees to resolve these differences.

Other issues raised by submissions

Integrated Catchment Management

The New South Wales Irrigators Council (2002, submission 12) raised a number of concerns with regard to integrated catchment management in New South Wales. It is argued that the proposed Catchment Management Amendments Bill may impact on the statutory requirements for the community process for the water sharing plans, and on integrated catchment management at a catchment level. Catchment management plans, it was claimed, will specify targets and objectives that are likely to become statutory and enforceable documents. The Irrigators Council is also uncertain about the relationship between catchment blueprint plans and the water sharing plans. The provisions in the national action plan for salinity and water quality call for an improved governance framework in the long-term including property rights and compensation to assist adjustment where property rights are lost in developing catchment plans. The submission argues the current New South Wales catchment management plans are not fully costed to deliver compensation where appropriate.

The World Wide Fund for Nature (2002, submission 13) also raised concerns with regard to the implementation of integrated catchment management plans. There are enormous differences in the scope and adequacy of catchment management plans across Australia. All jurisdictions should provide clear pathways to enable catchment planning to progress from a patchy knowledge base to targeted and effective management activities.

Council Comment

New South Wales has advised that there is no intention for the targets contained in catchment management plans to become statutory and enforceable. As the plans will not be statutory, the issue of compensation is not relevant. Further, the relationship between the catchment blueprint plans and the water sharing plans will be addressed in the Catchment Management Bill. The Council will be assessing the progress of devolution of irrigation scheme management across all jurisdictions in the 2003 NCP assessment in accordance with the timetable for assessments set by the Senior Officials 2001 agreement.

Devolution of irrigation scheme management

The World Wide Fund for Nature (2002, submission 13) argued the appropriate regulatory frameworks to ensure devolution meets environment

needs is not in place. The transitional arrangements for licences under the Water Management Act, it was claimed, will not be in place before 1 July 2004 and the Council may have insufficient time to assess this issue for the 2005 NCP assessment. In the interim, bulk licences for irrigation areas are exempt under the Act for environmental assessment under the *Environment Planning and Assessment Act 1979* and individual licences will not be reviewed until 2003.

Further, it is argued that the land and water management planning process is inadequate and produces marginal overall environment outcomes from bulk water licences for irrigation management areas. Land and water management plans are voluntary and focus on lowest common denominator targets that are inadequate to meet environmental objectives for these areas. The World Wide Fund for Nature would be concerned if the new water use approvals under the Water Management Act duplicate the standards contained in the land and water management planning process.

Council Comment

New South Wales has advised that land and water management plans are statutory and these plans have resulted in significant improvements. The Council notes that irrigation corporations will be subject to the environmental provisions of the Water Management Act to the same extent all other licence and approval holders. It will be assessing the progress of devolution of irrigation scheme management across all jurisdictions in the 2003 NCP assessment in accordance with the timetable for assessments set by the Senior Officials 2001 agreement.

Attachment 1: Free water allowances – local government councils, 2001-02

<i>Local government council</i>	<i>Free water allowance (kilolitres)</i>
Large councils (> \$2 million in revenue)	
Tweed	250
Bathurst	45
Kempsey	200
Orange	305
Parkes	364
Griffith	634
Medium councils (between \$1-2 million)	
Young	265
Deniliquin	1000
Wellington	548
Gunnedah	440
Cobar	550
Berrigan	250
Parry	350
Corowa	700
Yass	375
Cootamundra	219
Forbes	1300
Coonabarabran	683
Glen Innes	230
Murray	250
Wentworth	250
Harden	300
Yarrowlunla	280
Small (< \$1 million revenue, > 1000 Connections)	
Wakool	300
Hume	400
Bogan	700
Quirindi	500
Manilla	400
Tumbarumba	500
Parry	350
Cabonne	500
Carrathool	500
Dungog	230

Gloucester	350
Coonamble	775
Crookwell	300
Rylstone	370
Barraba	300
Hay	300
13 other small councils with under 1000 connections have an allowance	

Source: New South Wales Government (2002, unpublished)

Attachment 2: 2002 Water sharing plans

DLWC Region	Water Management Area	Name of Committee	Name of Water Sharing Plan
North Coast	Northern Rivers	Northern Rivers WMC	Coopers Creek
			Upper Brunswick River
			Alstonville Aquifer
	Upper North Coast	Upper North Coast WMC	Dorrigo Plateau including Dorrigo Basalt Aquifer
			Orara River
	Mid North Coast	Mid North Coast WMC	Apsley River
			Commissioners Waters
			Torumbee Creek
			Stuart's Point Aquifer
Hunter	Lower North Coast	Lower North Coast WMC	Karuah River
	Hunter	Hunter RMC	Hunter River including Patterson River
		Wybong River	
		Tomago-Tomaree GMC	Tomago-Tomaree-Stockton Aquifer
	Central Coast	Central Coast Unregulated RMC	Jilliby Jilliby Creek
			Ourimbah Creek
	Kulnura/Mangrove Mt GMC	Mangrove Mountain Aquifer	
Sydney Sth Coast	Southern	Shoalhaven/Illawarra WMC	Kangaroo River
	South East	South Coast WMC	Wandella Creek
Barwon	Border Rivers	Border Rivers Unreg R & G MC	Tenterfield Creek, Tenterfield
	Gwydir	Gwydir (Reg) RMC	Gwydir River
		Gwydir Unregulated RMC	Upper & Lower Horton River, and Cobbodah & Rocky Creeks
		Gwydir GMC	Gwydir Aquifer
	Namoi	Namoi Reg RMC	Namoi River
		Namoi Unreg RMC	Mooki River and Phillips, Quirindi & Warrah Creeks
		Namoi GMC	Upper and Lower Namoi Aquifers
	Border Riv's, Central West, Gwyder, Namoi Western	Great Artesian Basin GMC	Great Artesian Basin
	Central West	Central West	Macquarie RMC
Central West Unreg Streams MC			Castlereagh above Binnaway
Macquarie GMC			Lower Macquarie Aquifer
Lachlan		Lachlan RMC	Lachlan River
		Lachlan Unreg RMC	Mandagery Creek
		Lachlan GMC	Lower Lachlan Aquifer
M'bidgee	Murrumbidgee	Murrumbidgee Reg RMC	Murrumbidgee River
		M'bidgee Unreg Streams MC	Adelong Creek Tarcutta Creek
		M'bidgee GMC	Lower Murrumbidgee Aquifer
Murray	Murray	Murray Unreg RMC	Upper Billabong Creek
		Murray GMC	Lower Murray Aquifer
	Murray, Lower Murray-Darling	Murray Lower Darling Community Reference C'tee	Murray River (NSW section including the lower Darling)

Source: New South Wales Government (2002, unpublished)

Attachment 3: Water Policy Advisory Notes

Regulated rivers

Managing diversion limits in regulated rivers

Committees are instructed to set an average annual diversion limit as part of the bulk access regime of a water sharing plan. The diversion limit must not exceed the Murray–Darling Basin Ministerial Cap on diversions.¹⁹ Any growth above the diversion limit will undermine the plan’s environmental objectives.

Plans are to contain a trigger (maximum up to 3 per cent of the plan limit) at which a management response to limit diversions will occur. In inland systems, the growth in diversions should also not exceed half the difference between the plan limit and the Murray–Darling Basin Cap limit. If, for three consecutive years, the yearly assessment exceeds the plan diversion limit but does not exceed the 3 per cent trigger, then this will also invoke a management response.

Plans must contain a strategy for reducing diversions if they grow beyond the plan diversion limit during the life of a plan. The first management response when the diversion trigger is exceeded is to reduce the maximum annual volume of supplementary water available for extraction. If further reductions in water availability are required, these should be achieved through reductions in regulated river (general security) licences. Concurrent reductions in water available to high security licences may also form part of the response as long as the reductions are at a lower rate than those applied to general security licences, and the reduction considers the ability of high security licence holders to adapt to reductions. No reductions are to be applied to holders of stock and domestic licences, major utility access licences or local water utility licences.

Supplementary water access

Supplementary water may be available during wet periods or times of low water demand. The Water Management Act requires that access to supplementary water be licensed and these licences have the lowest water access priority. Plans must specify the rules that govern supplementary water licensing and use, and the future basis for distribution of such allocations for

¹⁹ Water sharing plans set two diversion limits. A *water sharing plan limit* is the long-term average water diversion based on the level of water use development in a water sharing plan (including environmental rules, water sharing and management rules). The *Cap* is the long-term average water diversion based on the 1993-94 development and management as per the Murray–Darling Basin Agreement.

new licences to be issued. Supplementary water entitlements may be distributed to normal security entitlement holders on a history of use basis or in proportion to normal security entitlement volumes, or a combination of both. The Act (s.87) excludes holders of supplementary water access licences from compensation for reductions to water allocations arising from variations of a plan. Supplementary water access may only be granted after all environmental flow requirements (specified in a plan) and all high priority right holders demands have been met. Plans should, wherever possible, specify the thresholds that must be satisfied before access to supplementary water can be permitted, the basis to calculate available volumes, and rules to allow the sharing of the water.

All supplementary water access licences in the Murray–Darling Basin should be specified by volume to set the maximum volume licence holders may take each year. For coastal systems, where the diversion limit significantly exceeds current diversion limits, supplementary water access licences may be specified as shares of available water rather than annual volumes. General access to supplementary water during years of low allocation in the Murrumbidgee and Murray and coastal systems should be specified as a component of a normal security licence and not as a supplementary water licence entitlement.

Floodplain harvesting

Floodplain harvesting reduces the amount of water reaching or returning to rivers impacting on the environment and downstream users. The New South Wales Government intends the taking of water from floodplains to be licensed and managed over the next couple of years. Plans must signal the basic principles to govern the process and specify that floodplain harvesting in their area is not subject to the provisions of the plan (and is not included in the diversion limit). The plans will note, however, that the harvesting of floodplain water will be managed on the basis of the following principles. All floodplain harvesting works and extractions will be licensed and a separate category of licence established. Licensing will initially focus on controlling the structure, but will move toward specifying volume limits and access rules including metering. No new works in the Murray–Darling Basin that result in diversion of additional water will be authorised. Floodplain diversion structures in place in the Basin before the 1994 irrigation season are considered to be part of the Cap on diversions. Once licensing is complete, an assessment of long-term use from current structures against those that existed in 1994 will be carried out to keep harvesting within cap levels. Floodplain harvesting rights will not be tradeable.

High security water

High security licence holders receive their full allocation in all but severe drought periods. The Act gives high security access licences priority over general security and supplementary water licences, but a lower priority than local water utilities, major utilities and stock and domestic licences. If water

allocations are to be reduced, high security licences are to be reduced at a lesser rate than the water allocations of lower priority licences. Plans are to contain rules that will govern the granting of new access licences and the allocation of water to these licences. Table 2.5 shows a comparison of high security licences to all other licences in the regulated systems. Plans may also cover the operation of water accounts for the area.

Table 2.5: Comparison of high security to other licence categories

<i>Regulated system</i>	<i>High Security irrigation licences (megalitres)</i>	<i>General Security licences (megalitres)</i>	<i>Ratio of High Security licences to General Security licences (per cent)</i>	<i>Licences in the highest priority categories* (megalitres)</i>
Border	1 200	267 000	0.4	1 700
Gwydir	15 000	505 000	3.0	3 600
Namoi	3 500	256 000	1.4	4 400
Peel	800	31 000	2.6	16 500
Macquarie	17 500	633 000	2.8	23 000
Lachlan	27 000	594 000	4.5	31 000
Belubula	7 400	19 000	38.9	200
Murrumbidgee	279 000	2 416 000	11.5	79 000
Murray	151 000	1 954 000	7.7	51 000
Lower Darling	7 400	30 000	24.7	10 700
Hunter	26 000	128 000	16.8	48 500
Paterson	190	9 400	2.0	100
Bega	170	13 900	1.2	760

* Includes local water utility, major utility, stock and domestic licences

Source: New South Wales Government (2001b)

High security licences receive very high levels of supply reliability although the rules and the reliability vary from system to system. In all cases the rules mean the risk of less than full allocation to high security licence holders is small (from less than 1 per cent in most systems to a few percent during drought years). Plans should set rules with reference to the following principles.

- All high security licences should receive a volume commensurate with their high security volume status after basic entitlements have been met.
- The water supplied to high security licences should be set to maintain a repeat of the most severe drought on record to ensure the survival of dependent businesses are not put at risk.
- Plans should only provide for reductions in allocations to high security licences during drought where this will provide a significant benefit to general security allocation reliability. In table 2.5 in the systems where the ratio of high security to general security is low, it is unlikely that reductions in allocations to high security licences during drought would significantly improve the overall reliability of general security allocations.

- **Reductions should only occur when the volume of water available to general security licence holders is at unusually low levels. The rules applying to reductions should ensure the frequency and degree of reduction does not significantly depart from existing water allocation arrangements or exceed levels that significantly affect the long-term viability and financial security of high security licensees. The advice suggests that reductions to high security allocations should not occur more frequently than one in ten years and that the maximum level of reduction should not exceed 25 per cent and not occur until general security allocation ceases.**
- **High security licence holders should not be permitted to carryover unused allocations between seasons unless there is a strong likelihood water will be inefficiently managed if the carryover is not allowed.**
- **Wherever extraction components are specified on access licences, the rules concerning initial distribution of rights must ensure that high security licences receive extraction rights to satisfy peak demands for water.**
- **Conversions from general security to high security²⁰ should be permitted in all regulated systems and plans should provide conversion rates set to protect the long-term reliability of supply to other licence holders.**

Unregulated rivers

Managing diversion limits in inland unregulated rivers

Licences on the unregulated rivers have been converted to a volumetric basis, and meters will be progressively installed to measure use.²¹ Cap levels and monitoring of diversions against a cap can be applied on unregulated rivers.

The unregulated rivers cap will be managed as a diversion management unit and each unit will have a diversion limit. The cap on the unregulated rivers of the Murray–Darling Basin will be established on a volume basis determined and managed for each defined diversion management unit.

Licence holders are allowed to divert up to twice the licensed annual entitlements in any one year (subject to announced annual allocations), provided the combined total of the licensed entitlement is not exceeded over 3 years. At the end of each year, the cap diversion limit will be compared

²⁰ Conversions from general to high security entitlements gives licence holders an ability to adjust the supply reliability of all or part of a licence to match business needs. The conversion involves a loss of a portion of entitlement volume in return for an increase in supply reliability.

²¹ New South Wales expects most pumps in the Murray–Darling Basin to be metered by mid 2004.

against the average diversions over that year and the preceding two years. A response to exceeding the cap will be triggered when the diversions over the 3 year audit period exceed the cap diversion limit by 5 per cent or greater. The response to any growth in diversions above the cap diversion limit will be by way of announced restrictions to the licensed annual entitlement.

The process of adjustment to be applied to deal with any increase in diversions above the diversion limit must be set out in plans according to the following formula to derive a percentage:

$$\text{Adjustment} = 1 - \left(\frac{\text{cap diversion limit}}{\text{Actual average diversions}} \right)$$

For example, the total licensed entitlements in a system is 25 gigalitres and the cap diversion limit is 20 gigalitres. If the 3 year average diversion is 22 gigalitres, the growth is 2 gigalitres, which exceeds the 5 per cent trigger. The percentage adjustment in annual allocations would be calculated as:

$$1 - (20/22) = 9\%.$$

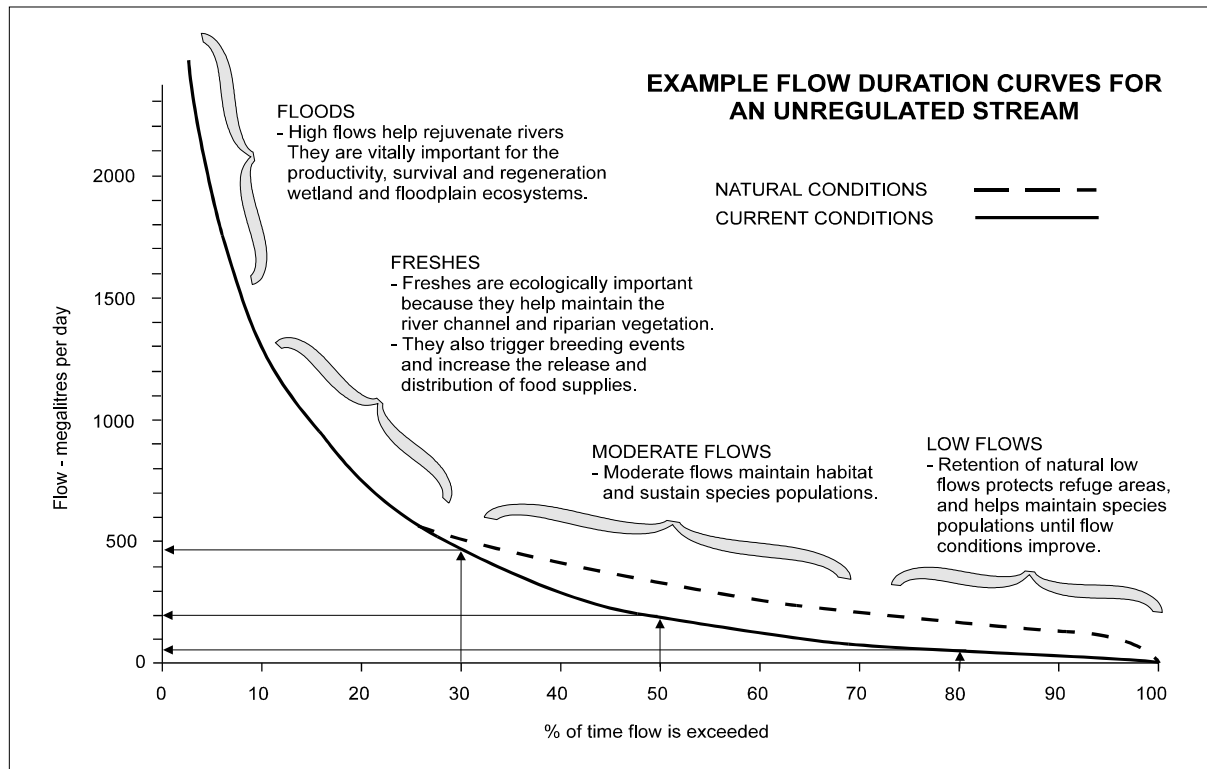
The Department of Land and Water Conservation would advise relevant licence holders that only 91 per cent of licensed annual entitlements will be available for the subsequent 3 years. After the adjustment has been made, there will be no audit or further adjustment for 3 years to allow water users to adjust and reduce water use.

Water extraction volumes and daily flow shares

The yearly diversion entitlement does not fully define users' access to water, nor can it provide sufficient protection for water needed to maintain the health of rivers. Daily extraction limits are also to be set in plans. These limits will set aside a proportion of flow for environmental purposes. Licence holders will not be able to pump until a minimum flow level is reached. Plans will specify shares of all flows above this level.

Water extraction volumes provide a basis for determining a user's extraction rights. The Department of Land and Water Conservation sets when and how much an individual will be allowed to extract from a river. Water users can then better plan their extraction patterns and schedules around the likely volumes of water available at critical times. These extraction volumes will be converted into licence conditions advising water users of the minimum river flow at which they can pump, and the maximum rate of extraction.

The daily flow share procedure takes into consideration important features of the flow regime which play a critical role in the ecological functioning and condition of a regulated river (including high flow events, small flow pulses and low flow periods). New South Wales has standard flow classes across subcatchments to simplify management and operation of the water market. To determine and implement extraction volumes, water sharing plans should divide flows into four sections as shown in figure 2.1.

Figure 2.1: New South Wales unregulated flow classes

Source: New South Wales Government (2001b)

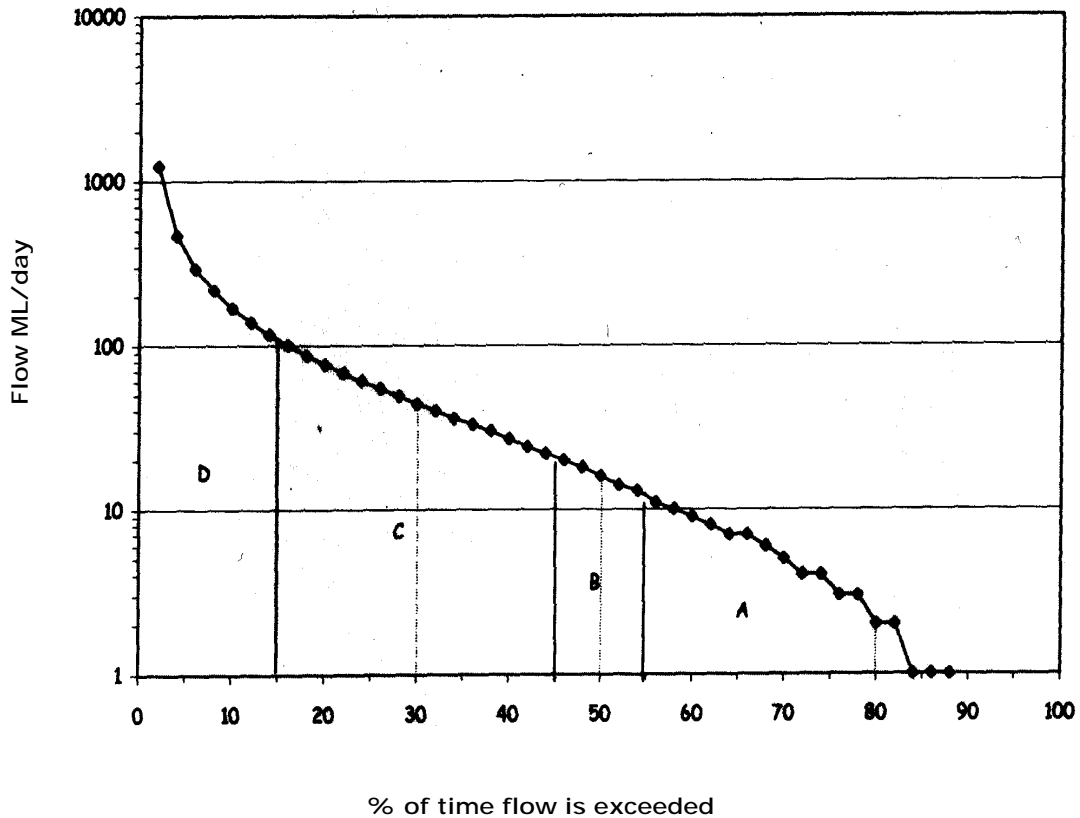
- **Very low flows** are the lowest flow levels. Water is to be set aside for environmental requirements (see provision for water for the environment section), plus an allowance for basic stock and domestic rights. There is to be no extraction by access licences.
- **A class flows** are low flows between the 'commence to pump' threshold and the 80th flow percentile.²² This class would only exist in the permanently flowing streams.
- **B class flows** are low to moderate flows between the 80th percentile and 50th percentile. This class may not exist in the more ephemeral streams.
- **C class flows** are moderate to high flows, freshes and floods above the 50th percentile, and may be further subdivided if water demands are high.

In setting the flow ranges for the A, B, and C classes, a flow duration curve for a whole year, or a month where demand most exceeds water available, can be used. The curve as shown in figure 2.2 below should be set on the most critical time for water sharing. In river systems where there is virtually no water available in the dry season and most extraction occurs in the wetter periods, the full year curve is recommended for more rational sharing of flows

²² When considering flows, it can be convenient to refer to the level of stream flow in terms of the percentage of time in which that flow is exceeded. Thus the 80th percentile flow is a low level of flow that occurs only 20 per cent of the time and which is exceeded 80 per cent of the time.

in wetter periods. In river systems where extraction is focussed on a few months, a critical month curve is recommended.

Figure 2.2: Flow duration curve for the end of system



Within each flow class, there is a need to establish the point at which the daily flow volumes are to be distributed to licence holders by sharing access to flows if and when they occur. As reported in the 2001 NCP assessment, New South Wales has recommended the following flow sharing indices:

<i>Class</i>	<i>Recommended flow sharing index</i>
A	80th percentile
B	50th percentile
C	30th percentile

Water sharing plans must determine peak daily demand for current and full development of licences. Current development peak daily demand is used in determining bulk extraction volumes. Full development peak daily demand may be used to distribute bulk extraction volumes to licences as daily flow shares.

The first stage of the process for setting flow extraction volumes is to decide on the amount of flow in each class that can be extracted without threatening river health or reducing access to existing users below reasonable levels. Bulk extraction volumes must then establish the amount of water that can be

extracted each day from each flow class by users in a subcatchment. These limits ensure an appropriate level of protection for the environment, basic right requirements, end of system flows and downstream water supplies, and are critical to determining whether water transfers can be made.

The starting point for determining bulk extraction volumes is current peak daily demand less 10 per cent (up to a maximum of 60 per cent of the flow sharing index). Bulk extraction volumes should be set to consider environmental and extractive requirements and these volumes should generally range from 0–30 per cent of the flow sharing index. The exception is where demands are already very high in the flow class. Here, the volumes may be set at up to a maximum of 60 per cent of the index.²³

Where the proposed bulk extraction volume is less than 30 per cent, and the subcatchment is not classed as high conservation value, volumes may be increased to up to 30 per cent to allow for full development of existing licences, transfers, and new licences consistent with the objectives of a plan. However, committees are not encouraged to recommend bulk extraction volumes beyond 30 per cent without clear demonstration of socioeconomic benefits and minimal impacts on river health. For subcatchments that are identified as high conservation value, the bulk extraction volumes should be set at a level to restrict future development of water use and protect conservation values. For subcatchments with no licences, bulk extraction volumes may be set at zero.

The implementation of rostering can minimise the impacts of reductions of daily flow access to water users. The New South Wales Government also has water reform structural adjustment programs to assist licence holders. New South Wales expects it will take up to four years to fully implement daily flow sharing, which will allow time for rostering and other measures to be initiated.

The amount of the bulk extraction volume to be issued to individual licences as daily flow shares depends on a comparison of the full development peak daily demand and the bulk extraction volume in each class:

- Where the full development peak daily demand equals or is less than the bulk extraction volume in a class, the demand can be met, and this volume can be allocated to all licences. In unstressed subcatchments, this is likely in all flow classes. In stressed subcatchments, full peak demand will probably only be met in C class.

²³ New South Wales derived these targets from a 1998 stressed rivers assessment which found that most unregulated subcatchments extract less than 30 per cent of flow. Relatively few extract 30–60 per cent of low flows. In the remaining subcatchments, over 60 per cent of low flows are extracted in peak extraction months resulting in environmental stress and hence the extraction of more than 60 per cent of low flow is unsustainable.

- Where the full development peak daily demand is greater than the bulk extraction volume in a flow class, the full development peak daily demand cannot be met in that flow class, and the bulk extraction volume only will be allocated to licences.

Implementation programs will phase in daily flow shares over a number of year as follows:

Year 1	Issue daily flow shares
	Communicate with water users over new arrangements
	Implement metering
	Install and/or upgrade gauges
Year 2	In consultation with water users, commence daily flow sharing on a trial basis and set up water accounts.
Year 3	Formal compliance with daily flow sharing.

All licences in a subcatchment will initially be 'group registered' with respect to daily flow sharing. That is, the daily flow extraction by all licences in the group will be assessed as a whole against the combined daily flow shares. Licence holders can take more than their individual daily flow share on a particular day provided the group as a whole is within the combined daily flow limit. Rostering arrangements can be used to achieve this. Licence holders will have the option of opting out of group registration at any time.

Diversion limits for coastal unregulated rivers

Some 31 per cent of coastal subcatchments are classified as high stress based on irrigation demands on low flows, meaning extractions are impacting on the health of the river. A further 15 per cent of catchments are classified as high conservation areas. Diversion limits will be applied to diversion management units of one or more subcatchments (usually major river valleys).

Pending better information, diversion limits in coastal systems that are already subject to a licence embargo should be set at the total annual licensed volumetric entitlement for all licence holders. In other words, growth in use up to the total of all annual licensed entitlements will be allowed. In unembargoed systems, the limit will be the target level at which an embargo would be put in place. Where assessment indicates full development of all current entitlements would threaten the environment, a diversion limit lower than the sum of licensed entitlements may be determined.

Groundwater

Groundwater quantity management

Total use of groundwater in a water source or zone is to be managed within the sustainable yield,²⁴ to ensure water availability for future generations and dependent ecosystems. Water sharing plans must identify and protect significant groundwater-dependent ecosystems (see section on provision for the environment) and recommend an environmental proportion. Where current use is above sustainable yield, the plan must specify the mechanism for reducing overuse to the sustainable yield level by the end of the plan.

The total volume of water specified on licences (entitlements) is to be reduced to no more than 125 per cent of the sustainable yield. Where adjustment of entitlements is required, all current licences excluding town and stock and domestic purposes, will be adjusted proportionally. Committees have been advised to take action sooner in the adjustment period to enable licence holders to have a clear understanding of their long-term extractable rights, and to allow transparent operation of the groundwater transfer market.

The key overall aim of a water sharing plan is to achieve a reduction in licensed entitlements closer to sustainable yield and to reduce overall water use to sustainable yield levels over the ten year planning period. The actual pattern of phase in of reductions should be recommended by each committee on a system-by-system basis. Groundwater access will be managed in a way that does not cause unacceptable local impacts. Artificial recharge of groundwater will be strictly controlled.

Access to groundwater will be managed according to established priority of use after environmental water is provided. The Statewide priority is for landholders to receive basic rights, including stock and domestic requirements first followed by local water utilities, major water utilities, and all other irrigation and industry needs.

All rights (excluding basic rights) to access and extract groundwater must be licensed and metered. In systems that are not subject to a licence embargo or Ministerial order, access licences will be issued on the basis of demonstrated need within the sustainable yield. Access licence holders have resource stewardship obligations and are required to abide by the conditions of licences. Approvals must be obtained before any access licence can be activated at a particular location. All activities or works accessing an aquifer will need an aquifer interference approval.

²⁴ 'Sustainable yield' is the long-term average amount of groundwater available for extraction without compromising the integrity of the aquifer or the surface ecosystems that it supports. It is measured as the estimated long-term average yearly 'natural recharge' to the aquifer, less a portion set aside for the environment (see provision for the environment).

The environment

Groundwater-dependent ecosystems

In preparing plans, committees will recommend a bulk environmental water provision (a proportion of recharge reserved for the environment), including water level or other management rules to minimise local impacts on dependent ecosystems. The size of the environmental provision will vary according to the characteristics and dynamics of each system and the significance of any groundwater-dependent ecosystems. It may vary from:

- a very small proportion where the aquifer is deep and has little connection to the surface; or
- a significant proportion where the connection is strong; and/or
- high conservation value dependent-ecosystems relying on the aquifer.

Local rules for protecting groundwater-dependent ecosystems may include limiting (or excluding) extractions in buffer zones around dependent ecosystems. Maximum limits for water drawn down from specified distances from a dependent ecosystem may be set including minimum distances from connecting rivers, creeks or other dependent ecosystem where a bore is sited.

The Department of Land and Water Conservation will assist committees in identifying and describing groundwater-dependent ecosystems, including their location and dependency and will draft model provisions to assist committees in developing recommendations. The department will also provide committees with estimates of the average annual recharge and an analysis of current groundwater rules and their effectiveness, and recommend where changes may be of most benefit. The committee will also be supplied with estimates of the impact of proposed water sharing rules incorporating ecosystem protection. The social and economic costs of the recommended water sharing rules will also need to be considered by the committee.

The following principles are to be applied in the management of groundwater-dependent ecosystems in New South Wales.

- Groundwater-dependent ecosystems can have important values for water users, ecosystem managers, scientists and the wider community by protecting biodiversity and cultural heritage. Values should be identified and action taken to ensure ecosystems are protected.
- Groundwater extractions should be managed within the sustainable yield of aquifer systems, so ecological processes and biodiversity of dependent ecosystems are maintained and/or restored. This will involve consideration of threshold levels that are critical for ecosystem health.
- Priority should be given to ensuring sufficient groundwater of suitable quality is available at the times when it is needed.

- Where scientific knowledge is lacking, the precautionary principle should be applied to protect groundwater-dependent ecosystems. The development of adaptive management systems and research to improve understanding of these ecosystems is essential for management purposes.
- Planning, approval and management of development and land use activities should aim to minimise adverse impacts on groundwater systems.

Freshwater flows to estuaries and coastal waters

Water management committees must consider how water is to be provided to protect and meet the environmental needs of estuarine and coastal ecosystems. This will include the importance of freshwater inflow to estuaries and coastal waters, their conservation status, and extraction of water from tidal pools. The need for a limit on extraction from tidal pools should be considered. Conditions may be attached to licenses to protect the functions and integrity of riparian, aquatic and marine ecosystems. Consideration may be given to linking extraction conditions to access conditions applying to rivers until the relationship between freshwater inflow and estuary and coastal functioning is better understood. Opportunities for rehabilitation of estuarine wetlands should be considered by committees before allowing extraction from tidal pools such as management of tidal barrages/floodgates for improved water quality and fish passage. The following principles should apply to managing provisions for flows to estuaries.

- Coastal catchments must be considered and managed as whole systems that extend from the upper catchment down to the offshore waters.
- Water management decisions should recognise that freshwater inflows are essential for the maintenance of estuarine and coastal ecosystems including areas with identified conservation values such as marine protected areas.
- River flows should be managed so that a sufficient share of the total freshwater in a catchment is protected as inflows to estuaries to maintain and protect the biophysical processes and biodiversity of estuarine and coastal ecosystems.
- All water extractions from tidal pools will be licensed and conditions of access carefully assessed and may include limits on diversions linked to river access rules.
- Where there is insufficient scientific knowledge, the precautionary principle should be applied to protect estuarine ecosystems. Adaptive management systems and research to improve understanding of the impacts of freshwater extraction on estuarine and coastal ecosystems is essential for their management.

Integrating water quality and river flow objectives

Committees need to be cognisant of the role that implementation of key river flow objectives can have in protecting the components of the natural flow regime which positively influence water quality. In this way, the protection and enhancement of water quality can be an outcome of water sharing plans.

Conservation of biodiversity and threatened species management

Threatened species legislation provides for threatened animal and plant populations and ecological communities to be listed according to their status. The *Threatened Species Conservation Act 1995* (administered by the National Parks and Wildlife Service) and *Fisheries Management Act 1994* (administered by New South Wales Fisheries) integrate threatened species management into the environmental planning and assessment process under the *Environmental Planning and Assessment Act 1979*.

Water sharing plans will play a key role in the recovery of threatened species that are directly or indirectly dependent on natural river flow regimes. Committees should provide approaches to conserving aquatic biodiversity within water sharing plans as outlined in the following principles.

- **Biodiversity to be conserved through an approach that recognises the importance of ecosystems and ecological communities.**
- **The interim river flow objectives should be used as the basis for developing environmental flow rules that mimic the natural flow regime to which aquatic species have adapted. Any variations in water flow regimes/levels which are significantly outside the natural flow regime, or which occur at the wrong time of year, should be avoided.**
- **During the development of the bulk access regime and environmental flows, wildlife needs should be understood and the ecological flow requirements of listed threatened species (where known) considered and incorporated (or reasons provided in plans where this is unachievable).**
- **A precautionary approach should be adopted where there is a paucity of information on species flow requirements, distribution, ecological functions and threatening processes.**
- **Water sharing plans should be consistent with the objectives and recommendations of established species recovery plans and threat abatement plans.**
- **High (and other identified) conservation values should be identified and maintained, including areas which have special requirements for the survival of threatened species, populations or ecological communities.**
- **Socioeconomic assessments of water sharing plans should address potential impacts (positive and negative) on threatened species, populations, ecological communities and critical habitat conservation.**

Committees must address the ecological flow requirements of threatened species (where known) including populations, ecological communities and their habitats (including critical habitat), during development of environmental flow rules in water sharing plan.

Incorporating results of the weir review into water sharing plans

Plans may incorporate the findings of the weir review program. The New South Wales Fisheries Department carried out an initial review of licensed weirs in 2001 for all catchments. The review included a desktop assessment, site inspections, and recommendations on the management options to reduce the environmental impacts of each structure. New South Wales Fisheries, in consultation with the State weir review committee, completed a report for each catchment on the outcomes of the initial assessment of licensed weirs. The results and recommendations should be reviewed by committees to determine whether the outcomes proposed have implications that could impact on components of a water sharing plan. The results of the initial weir assessments will be considered within the catchment management planning process and as a component of future water management planning under the Water Management Act. Committees will need to review the findings of the initial weir review for their management area and evaluate whether the findings have any water sharing plan implications, and if so, determine how to accommodate these in the plan.

3 Victoria

Outstanding assessment issues

Full cost recovery - urban

Outstanding issue: Consider evidence on the level of cost recovery in all nonmetropolitan urban water and wastewater businesses

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(a)

Background

For the 2001 NCP assessment, the Council concluded that a number of nonmetropolitan urban providers (referred to in Victoria as regional urban water authorities) are not operating on a commercially viable basis as defined by the CoAG guidelines.

The Victorian Government noted its intention to announce a price path that would establish full cost recovery within three years. Victoria also announced that an Essential Services Commission would be created as an independent economic regulator to oversee the implementation of the price paths.

In 2001 the Council noted that demonstration of further progress on full cost recovery, particularly among the regional urban providers, would be a significant issue for the Council's 2002 NCP assessment.

Victorian arrangements

Victoria has reported the completion of the 2001 Price Review for Water, Drainage and Sewerage. In late June 2001, the Minister for Environment and Conservation announced a new framework for water pricing in Victoria. This framework, a result of the 2001 price review, caps prices that Victorians will pay for water, sewerage and drainage services from water businesses over the next three years, from July 2001 to June 2004.

The review was conducted using the building block approach, which involves reviewing the obligations of each business, determining the set of costs to

efficiently deliver these obligations and computing a set of prices to recover those costs.

Key considerations in the price review were the need to:

- establish prices that lie within the band of a floor price that ensures commercial viability and a ceiling price that avoids monopoly rents consistent with CoAG pricing principles;
- maintain financially viable water businesses;
- meet Government policy commitments; and
- facilitate the Government's commitment to transfer economic regulation of the water industry to the Essential Services Commission (refer to progress report on institutional reform for more information).

A revenue requirement for each business was determined (consistent with CoAG pricing principles), to be recovered from customers through a set of tariffs, consisting of a fixed service charge and a use component.

According to Victoria, the resulting price framework provides an appropriate balance between the need to meet the economic imperative of responsible financial management and the social imperative of protecting customer interests by minimising pricing impacts.

For regional urban water authorities, Victoria expects all businesses to be operating between the lower and upper pricing bounds at the end of the 2004 price path.

Under the new framework, the pricing cap is:

- 2001-02: consumer prices index¹ plus 2 per cent (4.9 per cent total);
- 2002-03: consumer prices index plus 1 per cent; and
- 2003-04: consumer prices index only.

Victoria estimates that the price rises announced by the three metropolitan water retailers, and all regional urban water authorities, will result in Victorian households paying an average of 45 cents a week more for water and sewerage services, from 1 July 2001. The average metropolitan household water bill of \$459 a year will rise to \$482.

The framework has been introduced following extensive industry and community consultation over the eight months prior to setting the price framework.

¹ The consumer prices index figure used by the Victorian Government is 2.9 per cent, which does not take into account goods and services tax impacts.

Submission

Concerns about Victoria's pricing reforms have been raised by the World Wide Fund for Nature (2002, submission 13). Its submission argues that Victoria should improve the transparency of pricing issues, include a formalised transparent process for public input, and ensure externalities are incorporated into water prices.²

The comments in this submission are relevant to urban full cost recovery. However, the Council recognises that the issues raised also relate to various other assessment and progress reports in the 2002 NCP assessment. The Council has considered the views raised in that submission under all the relevant areas of this assessment.

Discussion and assessment

The methodology used to calculate the price paths for the regional urban water authorities appears to be consistent with the CoAG pricing principles, based on the information provided to the Council. The Council is concerned to ensure that, in line with the information provided by Victoria, by the end of the price path all regional urban services are priced within a band calculated to be consistent with the CoAG pricing framework. This includes rates of return calculated on asset values based on an appropriate asset valuation methodology.

In 2003 the Council will review the cost recovery achieved by each regional urban service provider to ensure its progress reflects Victoria's commitment to achieve appropriate levels of cost recovery by June 2004.

Full cost recovery - rural

Outstanding issue: Demonstrate significant progress on rural full cost recovery

Next full assessment: The Council will next assess rural pricing reforms in 2004.

Reference: Water reform agreement, clauses 3(a) & (b)

² Victoria had advised that during the 2001 Pricing review an Issues Paper relating to issues for consideration during the price determination was released for public comment. In addition, public consultation workshops were held in Melbourne and three regional centres (Ballarat, Bendigo and Traralgon) to discuss the Issues paper. All workshops were advertised in metropolitan and regional newspapers, and 49 submissions were received on the Issues Paper. No submission was received from the World Wide Fund for Nature.

Background

For the 2001 NCP assessment, Victoria provided indicative information only on the level of full cost recovery by the rural water authorities. For Goulburn–Murray Water, the largest rural authority, 25 of 34 schemes were recovering an amount consistent with the lower bound of the CoAG pricing guidelines. Goulburn–Murray Water advised that the nine schemes that were not operating on a commercially viable basis (10 per cent of Goulburn–Murray’s total rural services), would be shown to be financially viable for 2000–01.

The Council indicated that a demonstration of further progress on full cost recovery for the rural sector would be a significant issue for the 2002 NCP assessment when it would look for Victoria to have made progress in the following areas:

- finalised figures for full cost recovery by rural water authorities for 2000–01 and forecasts for 2001–02 including state tax equivalent regime payments;
- completed arrangements to improve asset valuation;
- completed guidelines for renewals annuities and oversight by the Essential Services Commission;
- considered a process to improve the treatment of externalities; and
- set a process in place to ensure that where dividends are paid they reflect commercial realities and simulate a competitive market outcome.

Victorian arrangements

Full cost recovery

Victoria has provided finalised figures for full cost recovery by rural water authorities for 2000–01 in table 3.1 below. Attachment 1 provides a forecast of the level of cost recovery expected to be achieved by 2002 by the State’s five rural water authorities.

There are still districts supplied by Goulburn–Murray Water that are not recovering full costs. For the fourth consecutive year, sales revenue was well below normal due to the drought reducing the amount of water available in the Goulburn system.

Given the final cost recovery figures for Goulburn–Murray Water were below expectations, and the lower bound, the Council requested a breakdown of cost recovery per scheme in that region. The irrigation supply areas that are under recovering are Central Goulburn Gravity Irrigation, Rochester Gravity Irrigation, Campaspe Gravity Irrigation, Pyramid–Boort Gravity Irrigation,

Shepparton Gravity Irrigation and Woorinen Gravity Irrigation. Goulburn–Murray’s detailed cost recovery information is at Attachment 2. Victoria provided the Council with the volumes and proportions of water in irrigation areas supplied by Goulburn–Murray Water Authority that are not recovering full costs.

Victoria has recognised the problem of under recovery and following a report by Marsden Jacob and Associates has restructured its tariff to reduce the risk of under recovery in drought years. These changes will be implemented in 2002-03. Victoria states that its pricing policy will, on average, deliver full cost recovery in all irrigation districts within Goulburn-Murray.

Victoria points out that while the proposed role and responsibilities of the Essential Services Commission for the rural water sector are yet to be determined, the proposals paper released in May 2002 foreshadowed arrangements to apply to the rural water authorities. Rural water authorities, in consultation with their rural customer committees, will prepare and submit pricing proposals (consistent with a set of pricing principles defined by the Government) to the Essential Services Commission for review. Where the principles are complied with, the Essential Services Commission will recommend to the Government that it accept the prices proposed by the rural water authority.

Table 3.1: Full cost recovery in the rural sector, June 2001

	<i>First Mildura Irrigation Trust</i>	<i>Gippsland and Southern</i>	<i>Goulburn– Murray</i>	<i>Sunraysia</i>	<i>Wimmera Mallee</i>
	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>
Revenue					
Bulk, service and usage	4.146	13.146	54.536	10.891	12.171
Other	0.492	4.060	23.892	2.607	2.513
	4.638	17.206	78.428	13.498	14.684
Expenses					
Operations, maintenance and administration	2.725	10.576	68.306	9.200	9.606
Finance charges	0	0	0.209	0	0.034
Other	0.894	0.819	3.999	0.663	4.203
Renewals annuity	0.937	2.957	14.844	2.081	3.254
	4.556	14.352	87.358	11.944	17.097
Surplus/(deficit)	0.082	2.854	(8.930)	1.554	(2.413) ^a

^a Wimmera Mallee Water's result includes an expense item for the write down of some \$2.4 million of channel assets abandoned due to the Northern Mallee Pipeline project. When the effect of this item on the business is removed, Wimmera Mallee Water achieved full cost recovery in 2000-01.

Source: State Government of Victoria (2002)

Where proposed tariffs are not consistent with the pricing principles, the Essential Services Commission will recommend to the Government that it reject the prices and that the rural water authority be required to submit revised tariffs. The Government will be responsible for making the final decision to accept or reject the rural water authorities proposed tariffs.

Improved asset valuation methodologies

Victoria's 2002 NCP annual report stated that an asset valuation practice statement, which adopts the deprival value concept for the assessment of asset values for financial reporting purposes, has been developed. The Council was provided with a draft of this statement. Its release, and implementation by businesses, is subject to the finalisation of a proposed accounting policy – *Valuation of Non-Current Physical Assets*.

More recently, Victoria has advised that while the accounting policy has been released, it temporarily excludes water businesses due to uncertainty with the application of fair value measurement of the infrastructure assets they hold. Consultation with these businesses will occur to resolve these issues.

The asset valuation practice statement will need to be reviewed to ensure consistency with the accounting policy and to resolve several issues regarding the application of the recoverable amounts test to water businesses. Victoria will issue the statement to apply on or after 1 July 2002.

Renewals annuity

Victoria reports that an initial draft of guidelines for renewals annuities was developed late in 2001. Further work is required, however, before consultation with the rural water businesses can commence. The Council has been provided with a copy of the draft guidelines.

The proposals paper on establishing the Essential Services Commission provides for bulk water pricing to be subject to explicit price controls. Pricing principles will be completed prior to the industry being brought under the jurisdiction of the Essential Services Commission from 1 January 2003.

In assessing rural water authorities' compliance with the Government's pricing principles, the Essential Services Commission may refer to the draft guidelines for renewals annuities. Victoria notes, however, that these are only guidelines and the Essential Services Commission may develop and adopt its own methodology for assessing the suitability of rural water authorities' renewals annuities.

Discussion and assessment

Victoria states that, on average, all rural water services achieve full cost recovery. Over recent years drought conditions have resulted in sales revenue levels that are well below normal and, hence, there has been under recovery in some districts. Victoria has recognised this problem and will adjust its pricing structure in 2002-03 to reduce the risk of under recovery in drought years. Victoria intends that the Essential Services Commission will oversight the prices of all rural water authorities from 2004.

Victoria is refining its approach to full cost recovery. The asset valuation practice statement will adopt deprival value for the assessment of asset values for financial reporting purposes. This is consistent with CoAG commitments on full cost recovery. However, considering the statement will undergo further review to ensure consistency with other accounting policies such as on the valuation of non-current assets, the Council will assess the situation when Victoria has finalised its approach.

Renewal annuities are the preferred method to reflect the medium to long term cash requirements for refurbishing and replacing water and wastewater infrastructure assets. The Council is satisfied that Victoria's draft guidelines for renewals annuities reflect CoAG pricing commitments. These are, however, non-prescriptive guidelines subject to change, and the extent of adoption of the method by water and wastewater businesses is yet to be seen.

Given Victoria's intention that recent changes in its pricing policy will reduce the temporary under recovery in some schemes in the Goulburn–Murray region the Council will conduct a progress report in 2003 on rural water pricing prior to its full assessment of rural cost recovery in 2004. As part of

the progress report, it will look at Victoria's progress in refining the approaches to renewals annuities and asset valuation.

Full cost recovery – rural dividend payments

Outstanding issue: Examine dividend payments to ensure they reflect CoAG commitments

Next full assessment: The Council will assess rural pricing reforms in 2004.

Reference: Water reform agreement, clauses 3(a) and (b)

Background

For the 2001 NCP assessment, the Council noted that dividends paid by rural water authorities were not based on commercial principles. The CoAG pricing principles state that dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.

Victorian arrangements

The rural water sector pays a dividend of \$1.1 million annually. The dividend amount determined for the rural sector as a whole, and for each authority is not based on commercial principles of profitability and Victoria's general government business enterprise benchmark levels of distributions. Victoria has supplied a summary (table 3.2) of the dividends payable by the rural and regional urban water authorities during 2001-02. The dividends paid by regional urban water authorities are based on reported surplus/deficits for 2000-2001. Capital contributions are removed before dividends are determined.

Table 3.2: Dividends payable by rural and regional urban water authorities during 2002

<i>Provider</i>	<i>Calculated from 2000-01 reports</i>	
	<i>Dividends (\$'000s)</i>	<i>Per cent of adjusted surplus/deficit</i>
Rural water authorities		
Goulburn–Murray	385	Not applicable
Sunraysia	88	Not applicable
Southern	221 ^a	Not applicable
Wimmera Mallee	209	Not applicable
Total – rural water authorities	903	
Regional urban water authorities		
Barwon	0	-
Central Gippsland	0	-
Central Highlands	516	65
Coliban	3760	65
East Gippsland	900	65
Glenelg	0	-
Goulburn Valley	0	-
Grampians	0	-
Lower Murray	0	-
North East	0	-
Portland Coast	0	-
South Gippsland	0	-
South West	0	-
Western	260	65
Westernport	1001	65
Total – regional urbans	6440	

^a This amount excludes \$197 000 in holding costs for Blue Rock storage.

Source: State Government of Victoria (2002, unpublished)

All rural water authorities paid dividends except the First Mildura Irrigation Trust. The amount payable is apportioned between Goulburn–Murray Water, Southern Rural Water, Sunraysia Rural Water and Wimmera Mallee Water based broadly on the volume of bulk water sales to the regional urban water businesses, and the capacity of the rural water authorities to pay dividends. Southern Rural Water's final dividend is adjusted for the costs of holding unallocated water in Blue Rock Dam.

Discussion

The Council is concerned that dividends are distributed to Government from the rural water authorities based on criteria other than commercial principles.

Victoria has committed to working on the details of a commercially based dividend framework, and will consult with the rural and regional urban water authorities as part of that process. While there is no commitment for rural water authorities, Victoria intends that a framework for dividends payable will apply to regional urban water authorities for 2002-03.

In developing the dividend policy for the rural sector, Victoria is looking to achieve consistent dividend principles that recognise the need for dividends to be based on profits generated from the commercial segments of business operations.

Victoria argues that, as the owner of the water businesses, it will continue to oversight the application of its dividend policy, including the proposed dividend framework for the rural water businesses. The return on capital would enable a water business to meet finance charges and pay a dividend to government, consistent with the Government's dividend policy.

Under corporations law, dividends may be paid out of profits only, not out of capital (s. 201). Profits in this context include accumulated retained profits as well as the current year's profit. The purpose of this restriction is to protect creditors by maintaining the company's capital.

The Council considers that a reasonable upper bound for the dividend distribution policy of a government water service business is the corporations law requirement that dividends may be paid only out of profits.

Not all water authorities are subject to corporations law, but the principles behind the corporations law approach to dividends should nevertheless be applied. The Council considers that the adoption of the limit in the corporations law would safeguard the authorities against being left with insufficient financial resources which could undermine service quality. This approach would also help satisfy competitive neutrality principles.

Assessment

The Council has not received sufficient information from Victoria to determine whether the current methodology for determining dividends or the actual dividend payments are consistent with commercial principles. Given Victoria's intention to develop a dividend framework the Council will reassess Victoria's progress on dividend payments for both regional urban and rural service providers in 2003. In that assessment the Council will look for the following;

- a completed dividend framework which includes equivalent corporations law safeguards for distribution of profits;
- agreement to apply that framework to both regional urban and rural water authorities; and
- actual dividend payments being set at an appropriate level.

Rural full cost recovery – community service obligations and cross-subsidies

Outstanding issue: Transparent reporting of community service obligations by rural water authorities.

Victoria is to establish an approach on identifying and reporting cross-subsidies before the Essential Services Commission assumes responsibility for regulating water and wastewater prices.

Next full assessment: The Council will assess rural pricing reforms in 2004.

Reference: Water reform agreement, clauses 3(a) and (b)

Background

Community service obligations

For the 2001 NCP assessment, the Council was concerned with the apparent lack of transparency in community service obligations (CSOs) arrangements among rural water authorities. For example, there is currently no requirement to provide information on the nature or value of CSOs in rural water authority annual reports. In 2001, the Council suggested that the noncommercial elements of the rural water authorities be separately identified and reported. One way of improving the level of transparency in current arrangements would be to include a requirement within the water service agreements that each annual report include information on the nature and value of any CSOs provided by the rural water authority.

Victoria advised that over the 12 months following the 2001 NCP assessment rural water authority water service agreements would contain a requirement to report CSOs in annual reports.

Cross-subsidisation

For the 2001 NCP assessment, the Council was of the view that Victoria had yet to meet cross-subsidy commitments in full. While progress in reforming cost recovery and consumption based pricing had decreased the scope for nontransparent cross-subsidies, a more rigorous consideration of this issue was needed to meet CoAG commitments. The Council's concerns related to:

- the depth with which the issue of cross-subsidies have been considered to date; and
- the apparent absence of a mechanism for reporting cross-subsidies transparently.

One possible way of addressing the Council's concerns would be to develop a set of guidelines for identifying cross-subsidies and requiring each rural water authority as part of its water service agreement to apply the guidelines and report any identified cross-subsidies in annual reports.

Victoria has advised that it would consider the issue of identifying and reporting cross-subsidies over the twelve to eighteen months following the 2001 NCP assessment with a view to establishing a preferred approach before the Essential Services Commission assumes responsibility for regulating water prices. Victoria also noted that the preferred approach is likely to include a set of guidelines for identifying and reporting cross-subsidies.

Victorian arrangements

For the urban sector, community service obligations are limited to the provision of concessions to pensioners, rebates to certain not-for-profit organisations and payments under the rates and charges relief grant scheme. The Minister for Environment and Conservation may direct the inclusion of additional information in annual reports as is necessary or appropriate in the public interest.

The *Financial Management Act 1994* (s. 51) has been used to require rural water businesses to report a range of additional information on water industry performance and operations. Victoria will institute arrangements to require rural water businesses to report community service obligations, as applicable, in their annual reports, commencing in 2001-02.

In its 2002 NCP annual report, Victoria indicates that it is yet to develop guidelines on the identification, measurement and reporting of cross-subsidies. It may do so, however, subject to finalising new regulatory arrangements to transfer prices oversight to the Essential Services Commission.

The Department of Natural Resources and Environment has released a proposals paper that sets out the Government's framework for the economic regulation of the water industry, and identifies the regulatory instruments necessary to implement the proposed regulatory arrangements. These include pricing principles documents that may include such matters as:

- a requirement that tariffs be fair and reasonable;
- a requirement that they be developed with regard to CoAG principles, where relevant;

- a requirement that they lie between an upper bound of stand alone cost and a lower bound of incremental cost;
- a requirement that services and prices be unbundled to the maximum extent possible;
- a requirement that tariffs reflect efficient, forward looking costs; and
- the methodology by which tariffs should be determined.

While the regulatory arrangements for the Essential Services Commission have yet to be finalised, Victoria argues that it expects the pricing principles under the new regulatory framework to ensure that cross-subsidies are identified and transparent. If the Essential Services Commission regulation reveals significant cross-subsidies between services and/or customers, Victoria will reconsider the need for guidelines for its water businesses on cross-subsidies. The most appropriate mechanisms for specifying obligations to identify and report cross-subsidies would be considered at that time.

Victoria argues that cross-subsidies in the rural sector have been removed. This is a function of the transitioning of rural water services to a position of full cost recovery and price setting in consultation with water services committees, which limits the potential for cross-subsidies between services. Water services committees are fully aware of the operational, maintenance, administrative and renewal costs recovered in their prices and would not agree to higher prices that generated cross-subsidies for other customers.

Discussion and assessment

The Council is satisfied with the actions Victoria propose for the reporting of community service obligations by rural water businesses. Once those actions have been taken, Victoria will meet its community service obligation commitments for rural water businesses.

The Council remains concerned with the lack of evidence of a more rigorous consideration of the issue of cross-subsidisation to meet the CoAG commitment. In 2001, Victoria advised that it would consider the issue over the next twelve to eighteen month period, with a preferred approach likely to include a set of guidelines for identification and reporting. There has been no progress on this commitment over the past 12 months. Victoria continues to argue that there are few, if any, rural cross-subsidies.

The Council recognises that some mechanisms are now in place to reduce the risk of cross-subsidies in the rural water sector, like consultation with water service committees and the pursuit of full cost recovery. However, cost recovery is not yet in full effect (as discussed in the section on full cost recovery – rural).

Given that under-recovery is still occurring, and the Victorian Government has not provided evidence to substantiate the claim that cross-subsidies have

been removed, the Council expects to see a mechanism to review the extent and risk of cross-subsidies. The Council suggests that one way this could be done is by the Victorian Government committing to requiring the Essential Services Commission to specifically examine the issue of cross-subsidies when it first looks at pricing by rural service providers. The Council will reassess this issue in 2003.

Water allocations and property rights

Outstanding issue: Victoria is to demonstrate progress on the following outstanding property rights issues.

- Further developments in implementing the program of bulk entitlements, streamflow management plans and groundwater management plans.
- A policy on the regulation of farm dams and the legal recognition of the provisions of streamflow management plans. The Council is to assess how Victoria has addressed the recommendations of the 2001 Farm Dams Review in relation to these issues.
- The development of a river health strategy. The Council will assess the strategy in terms of the State's CoAG commitments, how it manages public consultation, and its implementation pathway.
- The decision by the Sunraysia Rural Water Authority to reduce the duration of private diverter's licences from 15 years to five years.

Next full assessment: The Council will assess water allocations and property rights reforms in 2004.

Reference: Water reform agreement, clause 4(a)

Background

In June 2001, the Council considered that Victoria's system of water property rights met the CoAG commitments. The Council found, however, that progress by Victoria in the rollout of its implementation program of bulk entitlements, streamflow management plans and groundwater management plans had been slower than anticipated. The Council undertook to re-assess Victoria's progress against the implementation program in June 2002.

An emerging issue in the 2001 NCP assessment for Victoria concerned the cumulative impacts on property rights and the environment of the capture of surface runoff by Victorian farm dams. At the time of the 2001 NCP assessment, the Victorian Government was considering the recommendations of the 2001 Farm Dams Review and was expected to respond in the second half of 2001. Given Victoria was in the process of developing policy to address the recommendations of the 2001 Farm Dams Review, the Council committed to re-assess this issue in the 2002 NCP assessment.

The 2001 NCP assessment also found that Victoria was proposing to develop a river health strategy. For the 2002 NCP assessment, the Council has assessed the property rights aspects of Victoria's proposed strategy.

Finally, at the time of the 2001 NCP assessment, Sunraysia rural water authority had just announced that the tenure of private diverters' licences would be reduced from 15 years to five years on renewal. The Council was concerned that this decision effectively undermines irrigator's property rights. It has looked closely at this decision in the 2002 NCP assessment, including a strong justification for this decision given the effects on the Victorian property rights system. Following a request from the Victorian Government, Sunraysia Rural Water agreed to review its decision.

Victorian arrangements

Progress against the implementation program

Victoria is in the process of capping diversions on all streams through the bulk entitlement process and through management arrangements for unregulated streams. The bulk entitlement system is the mechanism for capping diversions for the regulated systems. For the unregulated systems, management arrangements regulate licence diversions in terms of the timing of diversions and improved rostering rules over the summer periods.

Bulk entitlement regimes

Bulk entitlements are issued to water authorities and are a legal entitlement to water. They specify the volume of water that can be extracted, the reliability and the rate of extraction and other obligations associated with system operation and resource management and reporting, including how much water has to be provided for the environment and the flow pattern in which it should be provided. Those issued to rural water authorities consist of any delivery bulk entitlements, individual irrigation water rights, sales water, losses and licences on regulated waterways.

Since June 2001, three bulk entitlements have been granted and five others have been finalised. Entitlements for the major systems — the Melbourne, Tarago, Ovens and Broken systems — that were to be completed in 2001 are now scheduled to be completed by the end of 2003. The reasons cited by the Victorian Government for this delay are the need to review the approach to conversion for the Melbourne and Tarago systems (where the environmental assessment is complete) and the need to reach stakeholder consensus.

Streamflow management plans

Streamflow management plans are developed on unregulated rivers to manage diversion licences. They are agreements for flow sharing which specify immediate and long term environmental flows, agreed levels of security for water users under various climatic conditions, management rules, trading rules and caps on water use development in catchments. These plans

are developed by consultative committees composed of the key stakeholders including environmental managers (such as the catchment management authorities, the Department of Natural Resources and Environment, and the Environmental Protection Authority), rural water authorities, environmental groups, and irrigators. In addition, broad community comment is sought through the process and the final plan must go to the Minister and then be tabled in both Houses of Parliament.

Streamflow management plan preparation began in 1995 in three catchments. Three plans are operational and there are currently 30 streamflow management plans under development. Another eight are targeted for completion by mid-2002. Victoria has cited the requirement to inform and build sufficient understanding in the community to make difficult decision about the management of water as the reason for the delays in implementing the streamflow management plan program. In particular, in overallocated systems, it takes time and considerable effort to establish consensus with regard to the appropriate balance between the environments water requirements and the needs of users.

Groundwater management plans

Victoria has been applying permissible annual volumes to reflect the sustainable yield of the aquifer. Allocations exceeding 70 per cent of the sustainable yield of an aquifer (expressed as the permissible annual volume) trigger a mechanism to establish a groundwater supply protection area, resulting in increased monitoring and the development of a community-based groundwater management plan to manage the resource. The objective of these plans is to ensure the groundwater resources of the relevant groundwater supply protection area are managed in an equitable manner, to ensure the long-term sustainability of the resource. A plan must address issues such as metering and monitoring, environmental allowances for groundwater dependent ecosystems, allocation arrangements (including transferable water entitlements) and the costs of implementing the plan.

Since June 2001, 10 groundwater supply protection areas have been established and groundwater management plans are under way. Victoria has advised that six groundwater management plans are complete and four more have been submitted for approval.

Farm Dams Act 2002

In July 2001, the Victorian Government released a response to the final report of the Farm Dams (Irrigation) Review Committee. The Government agreed to the recommendations and introduced the Farm Dams Bill in spring 2001 to amend the *Water Act 1989* to require licensing of all irrigation and commercial use within the catchment whether the water is taken from a waterway or not.

The *Water (Irrigation Farm Dams) Act 2002* (the Farm Dams Act) was passed in April 2002. The key feature of the Farm Dams Act is the extension of licence requirements for taking and using water, to cover all new irrigation and commercial water use in a catchment. The Act extends the licensing regime to people who take water (other than for stock and domestic use) from a spring, soak or dam. Licensing of groundwater extractions has been in place since 1970. This allows for a whole-of-catchment management approach to the resource and strengthens Victoria's compliance with the Murray–Darling Basin cap.

Existing unlicensed irrigation and commercial water users can apply for a registration licence or a standard licence. Registered licences incur no annual charges and are not tradeable off the property. Standard licences are tradeable off the property but incur an annual charge.

Other aspects of the new licensing and registration arrangements are that:

- one registration licence can be issued to cover all existing irrigation catchment dams on a farmer's property;
- meters will be required on new irrigation and commercial dams when a licence exceeds 20 megalitres or when the volume of the licence is less than the volume of the dam;³
- metering of existing use on unregulated waterways is being dealt with under the streamflow management plan process;⁴ and
- re-use dams will not be affected if they are within specified design criteria. Existing re-use dams larger than the criteria will need to be registered. New re-use dams larger than the criteria will need to obtain a licence.

A three member dispute panel will be established to consider disputes that arise from the licensing or registering of existing unlicensed dams. From April 2002, any person wishing to build an irrigation or commercial dam anywhere in a catchment will need a licence for the use of water. No changes were made to the existing arrangements for domestic and stock use.

To help with the transition to the new arrangements, the Victorian Government developed a transition package for landholders wishing to build catchment dams for irrigation or commercial purposes. In capped catchments such as those in the Murray–Darling Basin where no more licences are issued, a new developer must purchase a water entitlement from an existing user. In these circumstances, a grant of 50 per cent of the cost of water purchased (up to a maximum of \$400 per megalitre) is available. The grant applies to the first 50 megalitres purchased by an individual. The grants will be available until 14 500 megalitres are taken. Grants are also available for

³ Some licensing authorities have more stringent metering requirements.

⁴ All irrigation use on regulated waterways is already metered.

developing farm plans to improve efficiencies on farm for environmental assessments and dam engineering design. Individual farmers may be eligible for a total of \$26 000 in grants.

The Act also allows for specification of sustainable catchment limits on the amount of surface water and groundwater that can be used within a catchment to ensure resource sustainability. It enables the specification of permissible annual volumes, which is the amount of water that can be taken from a particular area annually. The Act prohibits the issue of licences if the permissible annual volume would be exceeded.

The Water Act already allowed for the establishment of groundwater supply protection areas to enable community involvement in preparing groundwater management plans. The Farm Dams Act extends these arrangements to surface water, and combined use (both groundwater and surface water). It amends the Water Act to allow the Minister to declare a water supply protection area⁵ and appoint a consultative committee to prepare a draft streamflow management plan and/or groundwater management plan for an area. These water management plans will set rules for the issue and transfer of licences, metering and monitoring requirements and place limitations on the use of water to ensure maintenance of specified stream flows or to prevent specified groundwater level declines. The plan may also recommend what the permissible annual volumes for the area should be. The amendments give legislative force to streamflow management plans.

Extensive consultation will occur to create a water supply protection area and develop management plans. Consultative committees appointed by the Minister will be responsible for developing draft plans. Section 29(2)(a) of the Water Act requires the Minister to ensure, as far as possible, that all relevant interests are fairly represented on a committee, and the membership consists of persons who have knowledge or experience in the matters to be covered in management plans. Catchment management authorities must be consulted on the appointment of members. The Victorian model specifies that at least 50 per cent of the members of consultative committees responsible for preparing plans will be farmers who own or occupy land in the area concerned.⁶ The Victorian Farmers Federation must be consulted on the appointment of farmer representatives.

The Water Act also provides for compensation in certain circumstances. A water management plan can specify compensation payments for any loss suffered or expenses sustained as a result of an authority directing works to be carried out, or works (other than a private dam) being removed. If the enforcement of a plan confers a benefit on another person to the detriment of

⁵ A water supply protection area can apply to both surface water and groundwater resources.

⁶ Unless the area is wholly within an urban area.

another, then the person suffering a loss is entitled under the Act to seek compensation from the person receiving the benefit.

Victorian river health strategy

The draft Victorian river health strategy was released for public review on 1 March 2002 and comments were sought by 17 May 2002. Approximately 50 submissions were received during this process. The Victorian Government is considering these submissions with a view to finalising the strategy by August 2002.

The targets in the Victorian river health strategy that relate to water property rights and the Victorian water allocation framework are shown in box 3.1.

Box 3.1: The targets for implementing the Victorian water allocation framework

- Winter sustainable diversion limits will be in place in all catchments by December 2002;
- All bulk entitlement conversions on major water supply systems will be completed by 2003;
- A Statewide water market will be in operation for the 2002–03 irrigation season;
- 16 groundwater management plans to be completed by 2003;
- 33 streamflow management plans to be completed in priority areas by 2004;
- Sustainable catchment limits will be in place by 2005; and
- 100 per cent compliance with the Murray–Darling Basin cap.

Source: Department of Natural Resources and Environment (2002)

The draft strategy notes that any proposals for new bulk water entitlements will generally be for either a new urban water supply or augmentation of an existing system. Before developing a proposal for a new bulk water entitlement, a water authority must examine all options for meeting future water demand. The proposal must include an outline of the costs and benefits, including the environmental costs and benefits of all options examined. The Government requires that a proponent for a new bulk water entitlement undertake a full assessment, including a detailed study of environmental water requirements, according to guidelines being prepared by the Department of Natural Resources and Environment. As a general rule, new bulk water entitlements will be approved only where they fully meet the environmental water requirements, address existing environmental flow issues and do not have an impact on other authorised users.

For unregulated systems, the Victorian river health strategy proposes to classify streams into three management priority groups: high risk, medium risk and low risk. The risk assessment will be based on:

- environmental/ecological values that need to be protected or enhanced;

- the amount of water authorised to be taken and the amount of water used in the area;
- the history of management difficulty in terms of water shortages;
- the likelihood of further demand for water;
- the need to protect downstream entitlements; and
- the permissible annual volume (the volume of entitlements that can be safely diverted) for the area.

Streams with a high environmental value and a high level of risk will be given the highest level of management effort. This effort will be through the development of community based streamflow management plans.

Streams for which the level of risk or the environmental values are not as high will be categorised as medium risk. These streams are intended to be eventually managed using a streamflow management plan, but currently are a lower priority for plan development. In the interim, they will be managed by Statewide management rules directed at relieving summer ecological stress, using trade to improve environmental flow regimes, managing winter diversions within a sustainable catchment limit and collecting data on water use to develop the streamflow management plan.

Streams with a clearly low level of risk will also be subject to Statewide rules for management which protect their current values and therefore address the protection of summer flows and freshes, the management of winter diversions within a sustainable limit, and trading. The proposed approach (shown in table 3.3) will be phased in by December 2002.

As a key component to a Statewide framework for managing waterways, the Government will establish interim diversion limits for waterways across Victoria. Winter sustainable diversion limits are to be created by December 2002. These limits are being developed for diversions for catchments and subcatchments for the winter months as an allowable rate of extraction based on an analysis of the hydrology of the system. In other words, these limits will be a conservative estimate of how much water can be extracted from these systems during winter with minimum environmental impact.

A streamflow management plan consultative committee may review the interim diversion limits. The committee will also provide an important link between farmers, relevant agencies (the Department of Natural Resources and Environment, rural water authorities and the catchment management authorities) and the general community affected by streamflow management plans.

Table 3.3: Management arrangements for unregulated rivers

<i>Category</i>	<i>Priority/risk</i>	<i>Management requirements</i>
1	High	<p>Development of a streamflow management plan.</p> <p>During the development of a streamflow management plan, where there is a declared Water Supply Protection Area under the <i>Water Act 1989</i>, no further licences will be allowed until the plan is completed. Licences will then be granted only in accordance with the plan provisions.</p>
2	Medium	<p>Will have a streamflow management plan in time.</p> <p>In the interim, these unregulated rivers will be managed in accordance with Statewide Rules covering:</p> <ul style="list-style-type: none"> • no further licences issued for summer diversion; • summer rostering rules to protect summer flows; • the introduction of metering to provide data on water use (see note 1); • granting of new winter licences up to the sustainable diversion limit (see note 2); • trading: <ul style="list-style-type: none"> – of summer licences; – downstream only in the Murray–Darling Basin and elsewhere unless specific impact assessment establishes otherwise; – reduction of 20 per cent of entitlement on trade (only in the Murray–Darling Basin); – of winter licences only within the sustainable diversion limit; • monitoring; and • compliance.
3	Low	<p>Will be managed in accordance with Statewide rules, covering:</p> <ul style="list-style-type: none"> • no further licences issued for summer diversion; • summer rostering rules to protect summer flows; • the introduction of metering to provide data on water use (see note 1); • granting of new winter licences up to the sustainable diversion limit (see note 2); • trading: <ul style="list-style-type: none"> – of summer licences; – downstream only in the Murray–Darling Basin and elsewhere unless specific impact assessment establishes otherwise; – reduction of 20 per cent of entitlement on trade (only in Murray–Darling Basin); – of winter licences only within the sustainable diversion limit; • monitoring; and • compliance.

Notes 1. The introduction of metering in Category 2 and 3 catchments will be in accordance with programs agreed between licensing authorities and the Department of Natural Resources and Environment.

2. This is subject to the completion of implementation programs for sustainable diversion limits agreed between licensing authorities and the Department of Natural Resources and Environment.

Source: Department of Natural Resources and Environment (2002)

The draft Victorian river health strategy has set a target of 2005 to have sustainable catchment limits to be in place for all catchments and aquifers. A sustainable catchment limit will restrict the amount of water that can be

extracted from a system. Limiting diversions within systems protects the security of existing consumptive users and environmental flows. Further development of catchments can continue to occur through the water market.

In developing streamflow management plans to manage diversions on unregulated rivers, Victoria recognises that the existing diversions in a number of streams, particularly in summer, may not enable the immediate meeting of environmental flow requirements. The environmental flow regime is required to be improved over the planning period, however, with the aim of ultimately providing the agreed regime. A streamflow management plan will include:

- immediate negotiated environmental flow provisions;
- flow-sharing rules for a range of climatic conditions;
- trading rules;
- provisions to improve the environmental flow regime over time, where necessary to meet the environmental flow requirements;
- rules covering the granting of any new licences;
- roles and responsibilities;
- cost-sharing arrangements; and
- provisions for monitoring, compliance and plan review.

These arrangements are outlined in the Streamflow management plan framework that was recently endorsed by the Minister.

In relation to groundwater, the Victorian river health strategy recognises that first estimates of permissible annual values used the best available data but were 'first cut' estimates. As resources become closer to triggering the 70 per cent permissible annual value, further data collection takes place, refining the estimates for use in community based groundwater management plans.

Sunraysia Rural Water Authority licences

The Sunraysia Rural Water Authority has been investigating options for giving long term certainty of water availability to growers while meeting operational, administration and environmental responsibilities (such as drainage management and salinity issues). One option being considered is to extend the term of the licence to beyond 15 years, subject to site use conditions being renewed every five years. The Authority, however, is yet to resolve legal impediments concerning how to revert to 15-year licence terms while still being able to update conditions of the licence more frequently. Another option yet to be considered by Government is to have a licence condition specifying that drainage obligations could be tightened if a

community based salinity planning process suggests this is necessary for existing irrigators.

Assessment

The passage of the Farm Dams Act is a significant achievement by Victoria in re-affirming water property rights and addressing environmental river health. Prior to the Farm Dam Act's amendments to the Water Act, there was no mechanism to control irrigation dams constructed off waterways to capture overland flow. Landholders could build farm dams on their properties to capture overland flow with no consideration of the effect on downstream users.

Large irrigation and commercial dams off waterways may have the same hydrological impact as that of dams built on waterways. They may reduce the amount of water and thus the security of existing downstream users and the potential for environmental harm. There was a need to protect those who rely on water provided by bulk entitlements and licences, and to ensure water is available for stock and domestic use.

To overcome these problems, the Farm Dams (Irrigation) Review Committee recommended that the Government introduce legislation to require licensing of all irrigation and commercial use in a catchment. The committee proposed that a licence be required regardless of whether the water is taken from a waterway or captured in a 'catchment dam'. The passage of the Act addresses the regulation of catchment farm dams, which are now part of the water allocation framework.

New irrigation or commercial dams built off a waterway after 24 July 2001 will need the same type of licence as required by a dam built on a waterway. This arrangement will enable catchment management to account for all significant water use, and will strengthen Victoria's compliance with the Murray–Darling Basin cap.

The Farm Dams Act also provides a strong link between groundwater and surface water in the planning processes. The relevant planning processes for streamflow management plans, groundwater management plans and bulk entitlements can now be undertaken in a way that recognises the interdependence of these water sources. The Council considers that the Act was a key outstanding property rights issue and commends Victoria on how it has addressed this commitment.

Regarding the implementation program, Victoria's progress on the bulk entitlement program and streamflow management plans has further slowed. Bulk entitlements and licences to take and use water are the means by which Victoria manages diversions from its waterways. The Council notes, for example, that no more plans have been finalised beyond the three streamflow management plans that were endorsed and in operation in June 2001. Nevertheless, the Victorian river health strategy has set some robust targets

for completing the bulk entitlement program and advancing the key streamflow management and groundwater management plans. Victoria is also developing a framework to streamline arrangements for the development of streamflow management plans.

The Victorian river health strategy requires winter sustainable diversion limits to be in place by December 2002 and proposes that overall sustainable catchment limits will be in place by 2005 for all catchments and aquifers. New winter licences will be available for allocations up to the sustainable diversion limit. Storage of this water for later use will provide greater options for irrigators facing summer diversion restrictions. Limiting extractions protects the security of existing consumptive users and environmental flows, and provides for the sustainable use of groundwater systems. The Council considers that the system of diversion and catchment limits proposed by Victoria provides a suitable mechanism to protect the environment from excessive diversions and to ensure water users understand the limits of the available resource.

In summary, Victoria has passed the Farm Dams Act, addressing the regulation of catchment farm dams, and is progressing arrangements with the Sunraysia Rural Water Authority (though in this last instance the path to resolving this issue remains uncertain). While the draft river health strategy does not contain a clawback mechanism for the stressed rivers, it does set targets for delivering the allocation framework. The Council is satisfied that Victoria has addressed outstanding property right issues and will re-examine progress in this area in 2004.

Provision for the environment

Outstanding issue: Victoria is developing a river health strategy. The Council is to assess the strategy in terms of the State's CoAG commitments, how it manages public consultation, and its implementation pathway.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

In 2001, the Council considered that the Victorian Government had made insufficient progress in increasing environmental allocations and restoring the health of its stressed rivers. Rivers are considered to be stressed when the negotiated environmental flow regime does not meet the recommendations from the scientific environmental flow assessment. Where this occurs, there is a risk of environmental damage including the contraction of wetlands, diminishing populations of native fish, flora and fauna, rising salinity and algal blooms.

In the 2001 NCP assessment, however, the Victorian Government committed to a comprehensive program to improve the health of the priority stressed rivers. By June 2002, Victoria was expected to have completed a publicly endorsed statewide river health strategy and met the appropriate milestones in the priority stressed river program agreed to by the Council.

In addition, the Council was mindful of Victoria's pivotal role in investing \$150 million in an intergovernmental agreement on the Snowy River. This historic initiative to restore the Snowy River to 28 per cent of its natural flow while protecting other river systems and water users reflected a real commitment by the Victorian Government to the long term health of its waterways.

Given the delays to date and the overall importance of allocating sufficient water to Victoria's other stressed rivers, however, the Council called for a re-assessment of this issue in the 2002 NCP assessment. The Council signalled its intention to consider payment recommendations if Victoria made insufficient progress by this time.

Victorian arrangements

In March 2002, the Victorian Government released the draft Victorian river health strategy for public consultation. The strategy has been developed to protect and restore Victorian rivers over the long term. It establishes a vision for river management, policy direction on issues affecting river health, and a blueprint for integrating all efforts to ensure the maximum river health benefits are obtained from the resources invested.

In the 2001 NCP assessment, Victoria provided a three year comprehensive program for improving the health of its priority stressed rivers. The program contained specific measures (such as specific flow plans), habitat measures (such as wetland and waterway management plans) and water quality measures (such as nutrient plans to address stressed rivers). Victoria's 2002 NCP annual report states that it is broadly on track in undertaking the three year program of action. Victoria has provided a status report of developments against the 11 nominated stressed rivers in attachment 3 including further work that is being undertaken.

Victoria's original implementation program (submitted in June 1999) nominated eight stressed rivers: the Thomson, Avoca, Loddon, Glenelg, Broken, Lerderderg, Maribyrnong, and Badger (Correnderk Creek). In 2001 Victoria provided information on a further three flow-stressed rivers where work is also being undertaken: the Macalister, Wimmera and Snowy. In addition, Victoria has targeted the Snowy and its portion of the River Murray as special cases due to the importance of these rivers to all Victorians.

The Victorian river health strategy will be implemented within the broader context of the Victorian catchment management framework. Under the integrated regional catchment strategies that are currently under review,

river health strategies will be developed. These will identify environmental, cultural, social and economic assets, threats and opportunities, and broad priorities. The river health plans will identify the high value and high priority river reaches and will integrate all the major issues that are threatening river assets. These include:

- flow, as specified by bulk entitlements, streamflow management plans and groundwater management plans;
- water quality, as addressed in nutrient management plans, State environment protection policies and salinity management plans;
- floodplain management, including rural drainage;
- waterway management (including fish passages and the removal of levees); and
- fisheries management.

As outlined in the 2001 NCP assessment, the timeframes for developing river health strategies for the stressed rivers are as follows:

- the Thomson, Macalister, Lerderberg, Badger Creek, and Maribyrnong rivers by December 2002;
- the Avoca, Glenelg, Broken, Wimmera and Snowy rivers by December 2003; and
- the Loddon river by December 2004.

Victoria has advised that the work program will need to be reviewed after the Victorian river health strategy is finalised and the regional river health strategies are developed, to ensure the program is consistent with the new approach.

The Victorian river health strategy is built on the principle of seeking to protect rivers of high value and to set priorities for restoration to achieve maximum 'net environmental gain' for the funds invested. The strategy aims to achieve ecologically healthy rivers over time. The strategy defines the characteristics of an ecologically healthy river and discusses how this should be used in river restoration. Stressed rivers are defined in the strategy as:

Where provisions in bulk entitlements and the immediate negotiated environmental flows in streamflow management plans do not meet environmental needs, these rivers are considered within the water allocation framework to be stressed. (Department of Natural Resources and Environment 2002, p. 69)

Where current flow regimes do not meet environmental flow requirements, it is likely that significant environmental damage either has occurred or is occurring, and the river is considered to be flow stressed. The further away

from the recommended flow regime, the higher the risk and severity of environmental damage. The draft strategy proposes a two-part process.

Stage 1 applies to all flow-stressed rivers for both regulated and unregulated systems.

- For regulated rivers (some 85 per cent of water diverted in Victoria), reduced flow regimes occur downstream of dams or within parts of irrigation systems. The aim is to reduce the rate of decline, improve the environment condition and, in some cases, achieve ecologically healthy rivers (albeit of a smaller size, different flow type or different ecosystem type). Water authorities in stressed river reaches in regulated systems are to: (a) ensure no further diversions will be allowed; (b) review operations to see whether improvements can be made to the environmental flow regime without affecting other users; and (c) develop and implement a demand management program.
- For unregulated rivers where there is a high level of stress, a streamflow management plan will be undertaken. If achieving the recommended environmental flow measures in a streamflow management plan is likely to have a significant impact on existing users, then those measures will be phased in over a period proposed by the streamflow management plan.

Stage 2 concerns stressed river proposals. Where the time predicted to restore ecological health is considered to be too long, the relevant catchment management authority and rural water authority may develop a stressed river proposal with communities to achieve further environmental improvements. These proposals are developed for rivers identified to be of high priority in the regional river health strategies. They build on the outcomes of the bulk entitlement or streamflow management plan processes. They identify the environmental flow improvements required, how these could be best achieved, habitat restoration and cost-sharing arrangements. Proposals may also include mechanisms for water savings, water re-use, supply rationalisation, and changes to systems or on-farm operations, or the use of the market.

The Victorian Government will consider stage 2 proposals that it receives based on the level of regional commitment, the environmental and community values of the river, the overall benefits to the wider community, the level of environmental improvements predicted and funding proposals. The Government may choose to co-invest with the region and other funding initiatives on behalf of the broader community in rivers of high environmental and/or community value.

The Department of Natural Resources and Environment is developing a statewide method for determining environmental water requirements across Victoria. The method is being developed by the Cooperative Research Centre for Freshwater Ecology, in partnership with Sinclair Knights Merz, and has been trialed in three catchments over the last 18 months. The new method will be used in all streamflow management plans and as the basis for bulk entitlements to ensure these processes use the best scientific information

available to negotiate environmental flow regimes. The method is expected to be finalised and launched in August 2002.

Every water allocation decision in Victoria, whether it is a bulk entitlement or a streamflow management plan, involves a scientific and hydrological assessment of the environmental flow requirements of the river system. This is a key input into decision making. The outcomes of environmental flow studies will be included in any draft streamflow management plan when it is released for public comment. The study reports will be made available on the web to ensure the wider community has access to this information.

In June 2002, the Victorian Government announced that it would establish an independent panel to assist consultative committees in the preparation of groundwater and surface water management plans. The panel will comprise technical experts selected on the basis of skills in ecology, hydrology and groundwater. It will audit the surface water and groundwater assessments and environmental flow investigations that form the basis of the technical information provided to committees. The audit results will be made available to the public. The aim of including a technical audit step in the water allocation process is to provide confidence to all stakeholders that allocation decisions are made in accordance with best available science. The Government expects that this panel will boost community confidence in decisions on managing the State's water resources.

Submissions

The Council has received submissions that commented on the Victorian Government's progress in implementing the CoAG water reform agenda. These included submissions from the Australian Conservation Foundation (2002, submission 9), Environment Victoria (2002, submission 2) and the World Wide Fund for Nature (2002, submission 13). The submissions all conclude that Victoria has demonstrably failed to commit to the environment reforms of the CoAG water agreements and that penalties should be applied until funding and policy commitments are secured.

The World Wide Fund for Nature (submission 13) argued that the Victorian river health strategy is inadequate and there are no funding commitments, so the Council should strongly consider recommending a penalty for Victoria.

A number of submissions noted that the proposed Victorian river health strategy was not expected to receive new funding in the 2002-03 Victorian Budget. The submission from Environment Victoria estimated that approximately \$15–20 million spent over three years, in addition to the approximately \$21 million that catchment management authorities receive for waterway management, would be necessary to enable Victoria to meet its CoAG commitments.

The Australian Conservation Foundation (submission 9) stated that the strategy would not receive funding in the 2002-03 State Budget and that the

Council should consider recommending penalties against Victoria for noncompliance. It argued that Victoria's only environmental reform achievements since 1994 have been the Snowy Initiative and the Farm Dams Act 2002, which accelerated the streamflow management plan process (albeit with committees with 50 per cent membership by nominees of the Victorian Farmers Federation). The foundation believes that Victoria has failed to identify environmental flow needs for rivers based on best available science, and that a premature demise in the stressed rivers program has resulted in an overwhelming failure to restore adequate environmental flows in stressed rivers.

The Australian Conservation Foundation argued the Victorian river health strategy does not provide any clawback of entitlements for the environment from consumption in relation to stressed rivers. (It should be noted that the Australian Conservation Foundation was part of the reference group that developed and agreed to the draft Victorian river health strategy). Further, there is a lack of any strategic approach to thermal pollution caused by large dams; Victoria has failed to respond to the Nolan-ITU report on pollution from irrigation drains in northern Victoria.⁷ This report recommended a licensing regime for irrigation drains, to be managed by the Environmental Protection Authority.

The catchment management boards collected a levy which, under legislation, was to be spent on river management works. Victoria has abolished the levy in favour of specific top up funding to the boards. There is no requirement, however, on where that money is spent, so now there are essentially no river management works being undertaken by any board in Victoria.⁸

The Australian Conservation Foundation also noted the slow progress of the bulk entitlement and streamflow management plan processes, the lack of any five year reviews of bulk entitlements (such as the Goulburn bulk entitlement), and the lack of funding to address the flow needs of Victoria's Ramsar wetlands.⁹

Environment Victoria (submission 2) also stated that the Council should consider suspending payments to Victoria until the Government provides adequate funds to implement the river health strategy, and Victoria agrees to deliver at least 1000 gegalitres of environmental flows to the River Murray by 2005. The operation of streamflow management plans does not significantly improve environmental flows or effectively engage the community in decision making. Combined with the lack of funding, this situation will impede the

⁷ The Victorian Government formally responded to the Nolan report on 9 May 2002.

⁸ Victoria has advised that strict guidelines govern how the Catchment Management Authorities spend the Tariff Replacement Funds.

⁹ The Ramsar wetlands are those listed under the 1971 Convention on Wetlands as wetlands of international importance. Victoria's Ramsar wetlands include Lake Albacutya, Dowds and Hearts Morasses and Lake Corangamite.

achievement of environmental targets set by the Victorian river health strategy. No streamflow management plan has met the environmental flow recommendations recommended by independent scientific investigation. Victoria needs to establish a Statewide monitoring program to determine the ecological impact of environmental flow allocations made under the bulk entitlement and streamflow management plan processes. The Department of Natural Resources and Environment should produce, publish and distribute guidelines for developing streamflow management plans. The failure to produce such comprehensive guidelines for consultative committees means diverters and water authorities drive through commercial interests at the expense of the environment.¹⁰

Environment Victoria argues the river health strategy and regional catchment strategies need ongoing participation by environmental groups, and this participation needs funding support.¹¹ The development of groundwater management plans should also involve environmental representation. There is a failure to equip members of streamflow management planning groups with the knowledge to participate meaningfully in decision making. While community stakeholders attend streamflow management plan meetings, these processes are inadequately funded, there is no training and no information is provided to allow parties to engage effectively in decision making.

The Victorian river health strategy 'aims, over time, to achieve the recommended environmental flow regimes'. The strategy is no stronger than an aim over an unspecified time period. With regard to a clawback mechanism for the strategy, the Council should direct Victoria to develop a public options paper on how to retrieve sufficient water to re-instate environmental flows to meet the ecological needs of stressed rivers.

The Environment Victoria submission cites the conclusions of a Parliamentary inquiry into the allocation of water resources in Victoria, which found:

- streamflow management planning groups are largely discretionary and highly variable with no provision to ensure expertise in hydrology or aquatic ecology;

¹⁰ The Victorian Government produced and released these guidelines in June 2002. Associated with the guidelines, an education program is being developed for agency and community members about the streamflow management plan process as well as to provide technical information.

¹¹ The Department of Natural Resources and Environment provides Environment Victoria with \$135 000 a year to coordinate community input into the water allocation framework. In addition, the department has provided a 'one off' \$50 000 contribution to improve Environment Victoria's community input into the water allocation framework.

- a broader and balanced representation of water users on committees (including environment representatives) could improve the planning process;
- improving conditions of stressed rivers appears to be feasible, and will produce benefits beyond the river. Reversing past mistakes, however, will involve considerable commitment and resources;
- resources for additional and ongoing data collection need to be adequate to assure the sound management of water resources; and
- the bulk entitlement conversion process is converting pre-existing, poorly defined entitlements of authorities to well-defined entitlements. Generally, it does not — and nor does it aim to — increase water for the environment.

Discussion

Victoria has taken a different approach to the environment from that of any other State. Through the bulk entitlement conversion process, it has defined the levels of consumption (through metering arrangements) and minimum passing flows for the environment, resulting in general improvements in environmental outcomes.

Victoria commissions environmental flow studies by independent consultants and, while it often cannot achieve the flow regime recommended by the science, it considers that there have been real reductions in allocations for consumptive use. The environmental flow regime of the bulk entitlements and streamflow management plans will generate regional river health objectives in regional health strategies.

A key question for the 2002 NCP assessment has been to determine how Victoria sets an appropriate environmental flow regime. Clarifying current entitlements to divert water for consumption sets bulk entitlements, which are legal entitlements under the Victorian system. Environmental flow needs are then assessed and a trade-off is made by the consultative committee based on an analysis of the predicted environmental benefits and the impact on the security of water users. Victoria has argued that this process complies with the CoAG requirement of achieving a better balance in water resource use (including allocations for the environment) Victoria has advised, for catchments that are relatively undeveloped with ecologically healthy rivers, the emphasis is on protecting existing environmental values. In rivers where the water resources are highly developed and generating significant economic activity, the emphasis needs to be on achieving an appropriate balance between the needs of the environment and consumptive users. To achieve this balance, Victoria has put forward the river health strategy as a framework for sustainably managing a finite resource. The framework is designed to:

- protect river health by providing water to sustain rivers, floodplains and associated wetlands and estuaries;
- provide all users with water entitlements that are explicit, exclusive enforceable and tradeable;
- enable water users to make informed choices about their use and management of water, to allow for certainty for long-term planning;
- protect social and cultural values;
- provide clarity on the water entitlements of all users in times of drought;
- facilitate the movement of water to its highest value use; and
- enable community input into decisions on water allocation.

The bulk entitlement and streamflow management planning processes have taken two to three years to implement through consultative committees comprised of key stakeholders. The committee works through a range of water sharing scenarios, which involves examining the impacts of environmental flow scenarios on the volume and security of existing consumptive users and the likely economic impacts. The stakeholders on the committee negotiate an agreed water-sharing arrangement with provisions for both the environment and consumptive users.

Victoria has argued that the environment has security under its allocation system. The bulk entitlement process guarantees passing flows for the environment in summer and thus the environment is sacrosanct. Victoria has advised that the environmental flows program is still broadly on track, despite some minor delays and the slow progress of the bulk entitlement conversion program and the development of streamflow management plans. For the regulated systems, bulk entitlements provide minimum passing flows and appropriate flow patterns to determine general environmental improvements for all major systems. Attachments 4 and 5 contain examples of environmental allocations provided by bulk entitlements and streamflow management plans respectively additional to progress on the stressed rivers program in attachment 3.

The second stage for the environment will be to set priorities for high value stressed rivers for investment by the Victorian Government and the community. Victoria's data shows that around one third of all rivers are in poor or very poor condition, while only 22 per cent are in good or excellent condition. This is due to a combination of factors including changed flow regimes, degraded water quality and changes in riparian and instream habitat.

The Council found the 2002-03 State Budget released in May 2002 contained the following new water reform funding measures.

-
- Some \$10.5 million was allocated in support of the implementation of the river health strategy to improve environmental flows and provide for river restoration over three years. This money was additional to the \$21.4 million annual funding provided to Victoria's five catchment management authorities for river and floodplain management and in excess of \$150 million per year in general catchment management activities.
 - In April 2002, Victoria and South Australia agreed to establish a \$25 million joint fund to improve the environmental health of the River Murray. The aim of the fund is to achieve an additional 30 gigalitres of environmental flows for the river. This funding is additional to the substantial commitments being considered by the Murray–Darling Basin Commission as part of the Corowa agreement. Victoria committed \$15 million to the joint fund.
 - Some \$77 million was committed to the Wimmera–Mallee pipeline project to enclose open channels. The project is subject to the Commonwealth matching Victoria's contribution to the project. (Comments by the Commonwealth indicate that it has not committed to the project, and funding was not included in the 2002–03 Commonwealth Budget.) The pipeline is expected to result in an additional 93 gigalitres in annual water efficiency savings. Some 83 gigalitres will be provided as environmental flows to be shared between the Wimmera and Glenelg rivers, with an additional 10 gigalitres for stock and domestic purposes. The total cost of the Wimmera–Mallee pipeline will be \$300 million. Some \$91 million represents the net present value of 50 years of operations, maintenance and administration expenditure, and users are to fund the residual.
 - Some \$12.8 million to address the health of the Gippsland Lakes.

In aggregate, \$243.8 million is being spent to restore flow in the Snowy River. This amount includes Victoria's \$150 million contribution to the tripartite agreement with the Commonwealth and New South Wales to establish a joint government enterprise to acquire water to provide environmental flows for the Snowy River.

The Council notes that at the time submissions closed (April 2002), there was a strong view that the 2002–03 State Budget would not contain new funding for the Victorian river health strategy. In follow-up meetings with the parties that made submissions, the Council was able to ascertain that Environment Victoria was satisfied that the \$10.6 million in the 2002-03 Budget for the strategy over three years would allow a real start to producing some key environmental outcomes. Given no new funding was expected for the strategy, Environment Victoria considers that the \$77 million proposed for the Wimmera–Mallee pipeline, the rescue package for the Gippsland Lakes, and the additional \$15 million in environmental flows for the River Murray indicate that Victoria is beginning to deliver outcomes for the environment. The Australian Conservation Foundation, however, considers that the funding for the strategy can be described at best as the minimum needed for

the program to produce strategies and plans and that the funding is insufficient to invest in any real river health works and services.

Another key issue that emerged during the course of this assessment was the nature of the trade-offs made in deciding what the environment receives under the Victorian system. In making a decision on an appropriate environmental flow regime that either does not meet (or does not meet in the short term) the scientifically recommended one, it is Victoria's view that the community has agreed to accept a higher level of environment risk and/or a certain level of environmental degradation as a consequence. However, it is the Council's view that to do this properly there needs to be independent science that models scenarios that identify levels of risk to the environment to allow the community to make informed choices.

It is the consultative committees that balance the environmental, social and economic needs to devise an appropriate environmental flow regime for immediate implementation. The Council has been concerned to ensure the risks to the environment posed by the negotiated environmental flow regimes are explicitly and transparently acknowledged. The Council has viewed the terms of reference to establish the independent technical review panel to provide advice on environmental flow requirements to consultative committees. The environmental flow studies, the draft water management plans, and the reports of the independent technical review panel will be made publicly available on the web. The Victorian Government has also committed to include in the draft guidelines to be used by consultative committees the need for plans to incorporate a description of the risks both to the environment and to the users of an agreed flow regime. The risk analysis will involve hydrological modelling of different flow scenarios.

The Council has also noted a number of other significant environmental achievements. The Northern– Mallee pipeline to be completed by July 2002 will return 35 500 megalitres of water to be shared between the Wimmera and Glenelg rivers. The project has been completed in seven stages and water generated from stages 1–6 has already been released into the Wimmera and Glenelg rivers. A bulk entitlement for Victoria's share of the River Murray has been set. Further, capping summer diversions across the state and the intention of the river health strategy to cap winter diversions, as well as a number of minor improvements in flow have occurred as a result of the bulk entitlement and streamflow management processes (see attachments 4 and 5 respectively).

Finally, the Australian Conservation Foundation submission made a number of claims. First, the submission claimed (at the time of writing) that the stressed rivers program has suffered a premature demise. The Council does not agree with this view. Rather, the stressed rivers program is being expanded. Victoria is committed to addressing flow stress on the nominated priority stressed rivers. In addition, substantial funds have been committed to reducing flow stress on the Snowy and Wimmera Rivers. The river health strategy also provides a mechanism to identify additional flow stressed rivers and the mechanisms to undertake action to reduce the stress.

A second claim made is that the abolition of a catchment management board levy has resulted in no river management works being undertaken by any board in Victoria. The State Government provides funds in the order of \$21 million a year to catchment management authorities and the Port Phillip Catchment and Land Protection Board for river management works. These funds are allocated through the regional management planning process. The funds are invested in critical works for the protection and restoration of waterways, water quality management action plans and in the proposed river health plans.

Assessment

In conducting this assessment, the Council has looked to ensure the Victorian system provides for transparency, and a balance of broader community interests. Informed community choices require independent science to model scenarios that identifies levels of risk to the environment and what happens if environmental water provisions are set below the recommended environmental water requirements. The science should be transparent, and the scenarios as determined by science used as the basis for decision-making.

While generally satisfied with the mechanisms in the Victorian river health strategy, the Council has been concerned that the timeframes may be too long such that there is doubt as to when the outcomes will be achieved. While the strategy provides two mechanisms to allocate water for the environment in developing individual river health strategies, it is the Council's view that committees may need to consider the two stages simultaneously.

With regard to the nominated stressed rivers program, Victoria has advised that there are a number of flow rehabilitation studies under way, and it is not possible to commit to stage 2 funding at this stage until the costs of these are known and weighed against the environmental benefits. It is Victoria's expectation, however, to deliver stage 2 flow regimes in more than the nominated rivers over the next three years as stressed river proposals are developed through the bulk entitlement and streamflow management plan processes.

The Council is satisfied the mechanisms contained in the river health strategy provide the tools for Victoria to meet the stressed rivers commitment. The outstanding 2001 commitment to develop the overarching river health strategy has been met. The Council will assess the first round of five stressed river plans in the 2003 NCP assessment against the stage 1 and 2 mechanisms of the river health strategy. To prepare for that assessment, the Council's Secretariat will hold quarterly consultative meetings with Victorian officials to monitor progress in developing these plans in accordance with the proposed reform path.

Compliance with principle 3

Outstanding issue: The Council will assess Victoria's response to the 2001 Farm Dams Review recommendation that environmental water provisions for the unregulated systems should be legally recognised, as per principle 3 of the national principles for the provision of water for ecosystems.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

In 2001, the Council found that the Water Act explicitly recognises environmental conditions on bulk entitlements, yet the environmental allocations set by streamflow management plans were not statutory based. The 2001 Farm Dams Review recommended that the Water Act should legally recognise streamflow management plans. For the 2002 NCP assessment, the Council undertook to review Victoria's response to the 2001 Farm Dams Review on this issue.

Victorian arrangements

The Farm Dams Act established planning processes for managing unregulated catchments through the specification of permissible annual volumes and sustainable diversion limits, the declaration of water supply protection areas applicable to both surface water and groundwater resources, and the development of streamflow and groundwater management plans. The Act gives statutory recognition to these plans. The Act requires that draft streamflow and groundwater management plans must be available for public comment. Once a draft plan has been sent to the Minister, it must be made available for inspection. On approval of the plan by the Minister, the plan must be tabled in both Houses of Parliament. Further, the Act also extends the licencing provisions to include the commercial and irrigation use of water in private off-stream dams or from springs or soaks.

Discussion and assessment

The Farm Dams Act has provided statutory backing for the provisions of streamflow and groundwater management plans. The Minister may now make a decision to accept or reject a plan if the community based plan is not consistent with legislation, or the process has not been followed. In addition, the Act allows for the Minister on his or her own initiative to declare a water supply protection area and develop a management plan.

In preparing the Farm Dams Act, the cumulative effect of catchment dams has been shown to be significant for the health of rivers. The Victorian river health strategy states that studies show that every megalitre of additional farm dam development leads to a 3-megalitre reduction in average stream flows, with low flows occurring earlier in the year and for longer periods. This is the period when water demand from entitlement holders is greatest. It is also the period of highest environmental stress, as a result of significantly reduced habitat, higher water temperatures and reduced water quality due to low flows. The Farm Dams Act caps future diversions and sets sustainable diversion limits (based on hydrological data for winter diversions) on a precautionary basis for new allocations.

The Council is satisfied that the changes embodied in the Farm Dams Act address principle 3 and meet the outstanding issue raised in the 2001 NCP assessment.

Compliance with principle 5

Outstanding issue: The Council is to re-assess Victoria's compliance against principle 5 of the national principles for the provision of water for ecosystems, in light of the river health strategy.

Principle 5 states that where environmental water requirements cannot be met due to existing uses, action (including re-allocation) should be taken to meet environmental needs.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

In the 2001 NCP assessment, the Council found that the streamflow management plan and bulk entitlement provisions go as far as possible to provide for the environment's water requirements balanced against current water users needs. The bulk entitlement process was scheduled to be complete in 2003. The development of all other plans was generally on schedule, although the processes and methods to be used depended on Victoria completing the river health strategy.

For the 2002 NCP assessment, the Council committed to re-assess progress against principle 5 in light of the Victorian river health strategy and the three year action plan for stressed rivers that the Council published in the 2001 NCP assessment.

Victorian arrangements

Victoria allocates water to competing uses via: streamflow management plans for unregulated streams and bulk entitlements. The first steps, done in consultation with all interested parties, are to identify:

- existing entitlements and other consumptive claims on the resources;
- the environmental values of the system; and
- the available resources.

The water required to meet the various environmental and consumptive needs is then assessed. This involves an assessment of the environmental flow requirements of the river and an assessment of the existing entitlements on the system in terms of volume and levels of security. A consultative committee of key stakeholders is established for each streamflow management plan and bulk entitlement process. After two to three years, the consultative committee develops a negotiated water-sharing arrangement with provisions for the environment and consumptive use. The environmental flow provisions are decided through a community-driven process that considers environmental, social and economic implications of water allocation.

The earlier section on the draft Victorian river health strategy describes two proposed mechanisms (stage one and two proposals) for dealing with stressed rivers. Rivers are described as stressed where current flow regimes do not meet environmental flow requirements, significant environmental damage has occurred (or is occurring) and the river is considered to be flow stressed.

The environmental flow regimes agreed through the bulk entitlement processes are implemented once the bulk entitlement is finalised and usually with minimal transitional arrangements. Transitional arrangements have been negotiated in the Thomson River bulk entitlement, however, and are likely to be included in the Wimmera and Loddon rivers' bulk entitlements.

Streamflow management plans may include a timetable to move from the current flow arrangements to the negotiated environmental flows. The planning process has a long term aim of achieving the scientifically recommended flow regime. Part of the process is the community's decision on how long it will take to achieve the targets.

Discussion and assessment

The original 1999 stressed rivers program provided by Victoria, as set out in the Council's 1999 NCP assessment, stated:

River restoration plans will be developed for rivers where the environmental provisions made through the bulk entitlement process are considered to be insufficient to meet environmental objectives.

These plans will build on the current environmental provisions. They will set clear environmental objectives, set priorities for any additional water, identify mechanisms to provide additional water, identify complementary instream and riparian habitat works that maximise environmental gains and establish agreed cost-sharing for implementation...in general, they will be starting at a point where any flexibility in operating systems has already been identified and negotiated within the [bulk entitlement] conversion process.” (NCC 1999, p. 438)

The recommended environmental flows have been achieved for the Thomson and Broken rivers (two of the original eight stressed rivers nominated in 1999) and significantly improved environmental flow regimes have been achieved for the Macalister River (one of the three stressed rivers added in 2001). The 2002-03 State Budget shows Victoria has committed to environmental actions to address three more of the 11 stressed rivers identified: the Snowy and Wimmera rivers (added in 2001) and the Glenelg River (nominated in 1999). The Council notes that action on the latter two rivers is contingent on the development of the Wimmera–Mallee pipeline, which requires matching Commonwealth funding. Action is still to be achieved on five stressed rivers nominated in the 1999 implementation program: the Maribyrnong, Lerderderg, Badger (Correnderrk Creek), Loddon, and Avoca rivers.

In the 2001 NCP assessment, Victoria nominated (and the Council published) a three year stressed rivers plan, including a timetable for implementation. Victoria was given an extension of implementation time because it proposed to broaden its approach in the Victorian river health strategy and the development of individual river health strategies to comprise a flow component, a habitat component and a water quality component.

It is the Council's view that the bulk entitlement and streamflow management plan processes alone will not be sufficient to meet this principle. Victoria has agreed that the consultative committees may simultaneously consider and recommend stage 2 proposals for stressed rivers of high value identified in regional river health strategies. The Council will therefore be looking for Victoria to invest in stage 2 proposals with priority consideration being given to the nominated three year stressed rivers program.

In 2001, Victoria was given an extension of time to meet its commitments on stressed rivers. In future NCP assessments, the Council will need to assess that the environmental outcomes in individual plans are being delivered. Victoria will need to be assessed each year against the 2001 three year action plan on stressed rivers, given that it has yet to meet the 2001 commitment for action on stressed rivers. A key area for assessment in 2003 will be the outcomes of Victoria's first round of five river health strategies for the stressed systems of the Thomson, Macalister, Maribyrnong, Badger Creek and Lerderderg rivers.

In relation to unstressed systems, Victoria has until 2005 to implement bulk entitlements and streamflow management plans as per the 1999 tripartite

meeting timetable. The Victorian river health strategy, which specifies December 2003 as the completion date for the bulk entitlement program and 16 priority groundwater management plans, and 2004 as the completion date for 33 streamflow management plans, should meet this commitment.

Compliance with principle 6

Outstanding issue: The Council is to examine the Victorian Government's response to the 2001 Farm Dams Review to determine progress and compliance with principle 6 of the national principles for the provision of water for ecosystems.

Principle 6 states that further allocation of water for any use should only be on the basis that natural ecological processes and biodiversity are sustained.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

In 2001, the Council found that Victoria was meeting principle 6. The Water Act requires a water authority to consider the impact on the environment and other uses before issuing a licence. An emerging issue in 2001 was the cumulative impact of winterfill dams on water resources. The Farm Dams Review recommended processes to deal with the cumulative impact, including introducing sustainable diversion limits to define precautionary diversion limits for all catchments and not issuing new licences until a streamflow management plan is in place. The review also recommended guidelines for assessing the environmental impact of dams, to assess the local environmental impacts of issuing licences.

In re-assessing compliance with principle 6 in the 2002 NCP assessment, the Council advised that it would examine the Government's response to the 2001 Farm Dams Review recommendations.

Victorian arrangements

Under the Farm Dams Act, streamflow management plans and groundwater management plans will specify monitoring and compliance conditions for a water supply protection area. Rural water authorities must publicly provide an annual report on compliance with water management plans. These annual reports must be made available to the Minister, catchment management authority and to the public by way of a notice in the newspaper.

The granting of new bulk entitlements is governed by the Water Act, which states that approval for a new bulk entitlement can be given only after consideration of the following matters listed in s. 40:

-
- existing and projected water availability and water quality;
 - any adverse effect the use of water is likely to have on:
 - existing authorised uses of water;
 - a waterway or aquifer; and
 - the environment;
 - the need to protect the environment, including riverine and riparian environments; and
 - the Government's conservation policy and its policies on water resources.

The draft Victorian river health strategy elaborates on those circumstances in which Victoria would consider granting new allocations. The strategy states that the Government anticipates that any proposals for new bulk entitlements will generally be for new urban water supply systems or an augmentation of an existing system. Any new bulk entitlement proposals will be required to undertake a full environmental assessment, including a detailed study of environmental water requirements according to guidelines being developed by the Department of Natural Resources and Environment. Water authorities will be expected to have first examined all options for meeting future demand before applying for a new bulk entitlement. A proposal for a new bulk entitlement will need to include the environmental costs and benefits of all options examined.

Due to the ecological stresses caused by summer diversions, Victoria has not issued new summer diversion licences for the unregulated systems for the past 15 years. For unregulated streams that are not flow stressed, statewide management rules are being developed to protect environmental values. These rules will include no further summer diversions, the introduction of summer restrictions and the management of winter diversions within sustainable diversion limits. A streamflow management plan will be developed to manage any river with high environmental values and a high degree of flow stress.

Further, the draft Victorian river health strategy proposes a comprehensive adaptive management framework for river health. The requirements of this framework are:

- a monitoring program designed to measure progress in achieving State and regional objectives and targets;
- a consistent statewide, long term monitoring network, to provide baseline information on aspects of the resource base that are relevant to river health;

- a research program aimed at improving the understanding of river health processes and management responses. The program will test key assumptions made in the development of regional plans;
- regular review of all plans to use improved information; and
- mechanisms to engage the community in the management of river health.

Submissions

Environment Victoria (2002, submission 2) argued that Victoria has not met principle 6 because there is no Statewide program to monitor the ecological impacts of environmental flows from bulk entitlements and streamflow management plans. New South Wales uses the integrated monitoring of environmental flows program across the State. Until such a program is initiated in Victoria, it is impossible for the State to meet principle 6 or establish effective, adaptive management practices.

Discussion and assessment

The draft Victorian river health strategy specifies the basis for new or additional allocations. As a general rule, new allocations will be made only where the environmental water requirements of the system are met. For the regulated systems, the Victorian Government will only approve new bulk entitlements that fully meet the environmental water requirements of the system, including a consideration of the impacts on downstream ecosystems, existing environmental flows and impacts on other users. For unregulated systems, new diversion licences will be only granted within a catchment's sustainable diversion limit or streamflow management plan.

Victoria concedes that a few cases may require a choice between augmenting an existing site, causing further environmental stress, or empounding a river that is in pristine condition. In these cases, the decision should be made after a full community consultation process has been applied under the Water Act and the *Planning and Environment Act 1987*. If a decision is made to stress a river further, then the rural water authority's evaluation process must consider options for river restoration elsewhere, to prevent a net loss of environmental values.

As a result of the Farm Dams Act, streamflow management plans and groundwater management plans will specify monitoring and compliance conditions, and rural water authorities must publicly report on compliance with the provisions of plans.

The Council is satisfied that Victoria is meeting principle 6 and has addressed the outstanding 2001 issue. The Council will re-examine progress against this principle in the 2004 NCP assessment, including the operation of the adaptive management framework. For that assessment, all aspects of the framework

should be in place to deliver the monitoring objectives contained in the river health strategy.

Progress report issues

Full cost recovery: urban

Progress report: Whether returns more closely reflect the weighted average cost of capital for the Melbourne retail water suppliers.

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clause 3(a) and (b); CoAG pricing guidelines

Background

For the 2001 NCP assessment, the Council reported the economic real rates of return of the four metropolitan water and wastewater businesses. At that time the Council was concerned that Victoria's metropolitan service providers earn returns well in excess of the minimum requirement for commercial viability as defined by the CoAG pricing guidelines. In one case, City West Water, the combined rate of return for water and wastewater services was more than three times the national average (WSAA 2000) and more than twice the weighted average cost of capital of 7.5 per cent reported in the company's annual report. The Council believed that price paths to be set through the 2001 Price Review should provide a sound basis for recovering costs consistent with CoAG guidelines, and strongly supported the proposal for future price path oversight by the Essential Services Commission.

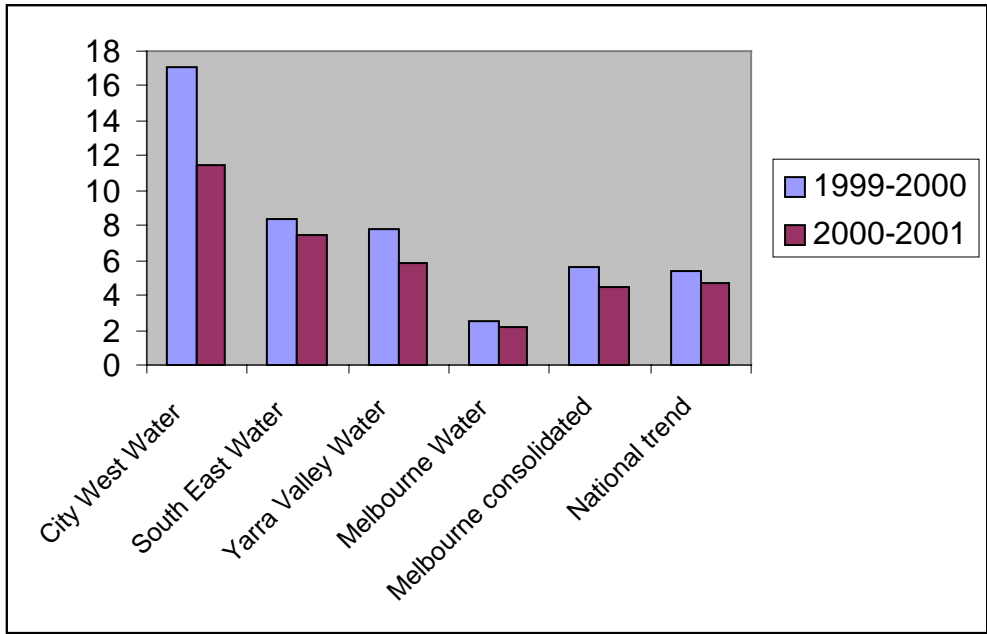
Victorian progress

For the 2002 NCP assessment, the Council requested Victoria to provide evidence that returns more closely reflect the weighted average cost of capital. Figure 3.1 compares the 1999-2000 returns earned by the four metropolitan businesses (reported in the Council's 2001 NCP assessment) against the 2000-01 financial year.

City West Water's combined rate of return has reduced from 17 per cent in 1999-2000 to 11 per cent in 2000-01. Victoria's 2001 NCP annual report notes that independent consultants, engaged during 2000 to estimate the current weighted average cost of capital for urban water business, have now completed their work. Estimates were sought to ensure Victoria's defined rates of return do not push revenue levels above the upper bound as determined by CoAG pricing guidelines. The consultants used the capital

asset pricing model to estimate the cost of capital associated with the regulated activities of water businesses. In estimating the weighted average cost of capital, treatment of taxation, and the use of real or nominal weighted average cost of capital was considered.

Figure 3.1: Economic real rates of returns to combined water and wastewater businesses 1999-2000 and 2000-01 (per cent)



Note: Melbourne consolidated figure reflects the returns to the system overall and nets out the impact of charges between Melbourne Water and the three retail businesses.

Source: Water Services Association of Australia (2001a)

A real after-tax weighted average cost of capital of 6 per cent was estimated,¹² and was used in identifying price paths in the 2001 Price Review.

Victoria, in explaining the reason for previous high rates of return, advises that the figures were determined using historic cost by the Water Association of Australia benchmarking report (WSAA Facts) using historic cost. The rate of return earned on regulatory asset values (using depreciated optimised replacement cost) bears little resemblance to that reported by the benchmarking report.

In 2003 the Council's assessment of urban pricing reform will need to consider whether the price paths are achieving their objectives of appropriate rates of return or whether high rates of return continue to be an issue.

¹² Victoria reports the weighted average cost of capital in after-tax terms. This reflects finance theory, the general finance practice of delivering costs in after-tax terms and provides protection from inflation risk where prices are set for a fixed period of time.

Full cost recovery – regional urban authority asset valuations

Progress report: Review the independent auditing of regional urban water authorities to ensure compliance with the State's asset valuation and financial reporting statement

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a) and (b); CoAG pricing guidelines

Victorian progress

Victoria advised in the 2001 NCP assessment that, as part of the water service agreements with the regional urban suppliers, service providers were required to have in place asset management systems, processes and plans. The Council understands that Victoria is considering extending the annual audit of metropolitan asset management plans to include regional urban water authorities.

As noted in the previous discussion on full cost recovery for regional urban water authorities, Victoria's 2002 NCP annual report stated that an asset valuation practice statement has been developed, which adopts the deprival value concept for the assessment of asset values for financial reporting purposes. The Council was provided with a draft of this statement. Its release, and implementation by businesses, is subject to the finalisation of a proposed accounting policy, *Valuation of Non-Current Physical Assets*.

More recently, Victoria has advised that the accounting policy has been released. This policy temporarily excludes water businesses due to uncertainty with the application of fair value measurement of the infrastructure assets they hold. Consultation with these businesses will occur to resolve these issues.

The asset valuation practice statement will be reviewed to ensure consistency with the accounting policy and to resolve several issues regarding the application of the recoverable amounts test to water businesses. Victoria will issue the statement to apply from 1 July 2002.

Urban full cost recovery: dividends

Progress report: Progress with introducing commercially based dividend arrangements, including appropriate returns earned on regional urban headworks services.

Next full assessment: The Council will next assess urban pricing reform in 2003.

Reference: Water reform agreements, clauses 3(a) and (b); CoAG pricing guidelines

Victorian progress

The metropolitan urban retail and wholesale water businesses 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 equivalent payments to 65 per cent of pre-tax profit. Individual dividend levels may vary from the benchmark due to the liquidity of the business, its capital requirements, and gearing and interest cover.

This commercial dividend arrangement, based on profitability and government business enterprise dividend benchmark, was introduced to the regional urban water authorities in 1999. In addition to the standard government business enterprise considerations, capital contributions from customers and industry are excluded from dividend calculations.

The Council notes, however, that WSAA Facts 2001 reports that for the 2000-01 financial year Melbourne Water paid after tax profit dividends of 121 per cent, Yarra Valley water 109 per cent, South East Water 94.8 per cent, and City West Water of 67 per cent.

The CoAG guidelines require that dividends reflect commercial realities and simulate a competitive market outcome. The Council has expressed a concern with other jurisdictions that dividend policies do not prevent adequate funds being retained within the business.

Full cost recovery: externalities

Progress report: Developments in factoring externalities into pricing by urban service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Victorian progress

The CoAG pricing guidelines require externalities to be incorporated into prices. The Council recognises that this is a complex and difficult area,

particularly in the urban sector. The Council's view is that the first step is to look for prices to reflect an appropriate proportion of the costs of mitigating environmental problems of water use but pricing is only one part of a holistic approach to dealing with externalities.

Victoria has advised that the 2001 Price Review considered the cost of externalities as part of the building block approach to determining the costs of efficiently delivering services.

The financial submissions provided by the 19 urban and regional urban water authorities to the 2001 Price Review included the costs of meeting future service performance standards and obligations in relation to environmental management. The operating licences of the metropolitan urban retail water businesses included an obligation to report to the Environment Protection Authority on compliance with respect to:

- the conditions of any waste discharge licence issued to it by the Environment Protection Authority;
- State environmental pollution policy requirements; and
- performance criteria specified in an environmental improvement plan.

At the time regional urban water businesses provided their financial submissions, work was underway to develop a generic water services agreement template that would include resource management obligations in respect of environmental management, effluent management, emergency management and incidents response, water conservation, drought response and security of supply. The template would also reflect the obligations of these businesses to comply with performance standards for wastewater, effluent and sludge reuse. The purpose of the water services agreement was to more formally articulate resource management obligations and performance standards.

Victoria points out that while the costs attributable to these natural resource management obligations were included in the businesses' financial submissions, the information was aggregated such that these costs were not directly identifiable or reported separately in annual reports. Victoria states that the move to Essential Service Commission regulation of the water industry should make these costs more transparent.

With regard to the future treatment of externalities, Victoria indicates it has no immediate plans to alter its treatment of externalities. Victoria's approach is for water businesses to internalise the costs of addressing externalities directly attributable to water users by incorporating them into their cost structures.

Community service obligations

Progress report: The transparent reporting of the size and nature of community service obligations provided by urban service providers.

Next full assessment: The Council will assess the reporting of community service obligations in 2003.

Reference: Water reform agreement, clause 3(a)(ii)

Victorian progress

Victoria's water industry limits CSOs to the provision of concessions to pensioners, rebates to certain not-for-profit organisations and payments under the rates and charges relief grant scheme. CSOs are provided for urban water and wastewater services, and are funded by Government in a transparent manner. The value of CSOs delivered by individual water businesses is readily available from both the Department of Human Services and each business. The Department prepares annual summary reports on the level of pensioner concessions delivered by each business. In addition, Victoria will institute arrangements to require all authorities to report on CSOs in their annual reports commencing 2001-02.

Full cost recovery: cross-subsidies

Progress report: Progress in identifying and reporting cross-subsidies

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clause 3(a)(i)

Victorian progress

In its 2002 NCP annual report, Victoria indicates that it has not developed guidelines to identify, measure and report cross-subsidies. It may do so, however, subject to finalising new regulatory arrangements to transfer the economic regulation of the water industry from the Government to the Essential Services Commission.

The proposals paper sets out the Government's framework for the economic regulation of the water industry, and identifies the regulatory instruments necessary to implement the proposed regulatory arrangements. These include pricing principles that require:

- tariffs to be fair and reasonable;
- tariffs to be developed with regard to CoAG principles, where relevant;

-
- tariffs to lie between an upper bound of stand alone cost and a lower bound of incremental cost;
 - services and prices to be unbundled to the maximum extent possible;
 - tariffs to reflect efficient, forward looking costs; and
 - the methodology by which tariffs should be determined.

While the regulatory arrangements for the Essential Services Commission have yet to be finalised, Victoria argues that the pricing principles under the new regulatory framework will ensure that cross-subsidies are identified and transparent. If the Essential Services Commission regulation reveals significant cross-subsidies between services and/or customers, Victoria has said it will reconsider the need for guidelines for its water businesses on cross-subsidies. The most appropriate mechanisms for specifying obligations to identify and report cross-subsidies would be considered at that time.

Victoria argues that cross-subsidies in the regional urban sector have been removed.

Institutional reform: structural separation

Progress report: Implementation of the institutional reforms outlined in the Council's 2001 assessment.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6

Background

Late in the Council's 2001 assessment process (26 June) the Victorian Government announced its new pricing framework for Victorian Water businesses. This framework sets a three year price path. Because of the timing of its release the Council was unable to fully consider the outcomes of that review in its 2001 NCP assessment.

At the time of the 2001 NCP assessment, the Minister for Environment and Conservation had responsibility for service provision and price regulation for Melbourne Water. The introduction of the Essential Services Commission, however, was expected to provide the transparency and accountability necessary to address any possible conflicts of interest.

The Minister for Environment and Conservation also had oversight of all aspects of services delivery, standards setting and pricing for regional urban water providers. The plans to introduce an Energy and Water Ombudsman and the Essential Services Commission could also address any potential conflicts of interest in the regional urban sector.

In addition, the template for regional urban water services agreements indicated that these agreements would add to transparency by clarifying, auditing, monitoring and reporting the obligations on service providers.

Finally, the Minister for Environment and Conservation had dual roles as owner of Melbourne Water, regional urban and rural water authorities and responsibility for water allocations and management. Again, this potentially raised conflicts of interest. In its response to the Council's concerns, Victoria noted the water service agreements would set out clear responsibilities and accountabilities for service delivery and regulatory functions.

The 2001 NCP assessment noted that the Council would report on Victoria's progress in implementing proposed changes in the following areas:

1. defining the roles of the Essential Services Commission and establishing this organisation;
2. demonstrating that the approach taken in the 2001 Pricing Review of Water Drainage and Sewerage in Victoria was consistent with the CoAG obligations;
3. finalising the new regulatory framework for drinking water standards so that it allows for independence (from the service provider) in the setting and enforcement of standards consistent with the 1996 Australian Drinking Water Guidelines;
4. signing water services agreements with regional urban and rural water authorities that provide the transparency and accountability necessary to remove any conflicts between the ownership of these organisations and their regulation;
5. responding to any institutional reform issues that arise from the review of Victoria's water legislation; and
6. responding to the Environmental Protection Authority review of the regulatory arrangements for septic tanks.

Victorian progress

Essential Services Commission

The Victorian government has made progress in defining the involvement of the Essential Services Commission in water issues. The Department of Natural Resources and Environment released an issues paper in November 2001 outlining the issues for establishing the Essential Services Commission as the economic regulator for the water industry. The issues paper formed the basis of preliminary targeted consultation to assist in the development of specific proposals for broad community and stakeholder consultation. Submissions on the issues paper closed on 18 January 2002.

A proposals paper was released in early 2002 proposing the various services to be regulated by the Essential Services Commission and calling for submissions by 22 May 2002. These services are outlined in table 3.4.

Table 3.4: Nature of service and initial form of regulation

<i>Service/Service type</i>	<i>Proposed initial form of regulation</i>
Urban water and wastewater services	Explicit price controls
Urban water and wastewater services – connection/developer charges	Detailed pricing principles
Bulk water and sewerage supplies	Explicit price controls
Rural water authority irrigation and stock and domestic services	Detailed pricing principles
Regional urban water authority irrigation services	Explicit price controls
Metropolitan drainage services	Explicit price controls
Trade waste services	Detailed pricing principles
Other monopoly water/wastewater services eg tee insertions, meter testing	Prices oversight/dispute resolution
Groundwater and surface water licensing	No role for the ESC. Prices to be overseen by the Government
Recycled water	No role for ESC
Competitive services eg mulching and plumbing services	No role for ESC

Source: Department of Natural Resources and Environment (2002c, p.7)

Consultation on the proposals paper will aid in the development of new legislation to give effect to the regulation of the water industry by the Essential Services Commission. The new legislation is scheduled for introduction in the 2002 spring parliamentary session. Victoria's states that:

It is the Government's intention that all water businesses will be brought under the jurisdiction of the ESC from 1 January 2003. (State Government of Victoria 2002, p.67)

The Government states that its overarching objective for the water industry is to ensure that it delivers water services that meet the social, economic and environmental needs of current and future generations. The key objectives in bringing the water industry under the Essential Services Commission are to:

- *protect the long-term interests of all customers in terms of price and quality of water services;*
- *facilitate a financially viable water industry;*
- *ensure environmental, public health and safety and social obligations in water are fully considered;*
- *ensure transparent and accountable processes for regulatory decision making; and*

- *provide incentives for optimal long-term investment.* (Department of Natural Resources and Environment 2001, p.11)

2001 pricing review

Victoria argues that this review was developed consistent with the CoAG water pricing guidelines. The new pricing framework is based on two-part tariffs. It is also designed to recover the business costs of providing water, sewerage and drainage services as a minimum. The prices were developed based on business costs submitted by the water businesses that consisted of:

- operations, maintenance and administration costs;
- cost of asset consumption (depreciation);
- finance charges/borrowing expenses; and
- cost of capital (rate of return).

The cost of capital (set at 6 per cent after-tax) recognised that both debt and equity sources of funding have a cost to business.

Drinking water quality

In August 2000, the Victorian Minister for Health and the Minister for Environment and Conservation jointly released a consultation paper setting out proposals for a new regulatory framework for drinking water quality in Victoria. Feedback on the consultation paper was considered in the development of a proposals paper, *Safe Drinking Water a New Regulatory Framework for Drinking Water Quality in Victoria*. The proposals paper was released for targeted consultation in November 2001. The key features of the proposed framework are:

- *enforceable and achievable health and non-health related statewide standards for drinking water, set after a public process which examines the costs and benefits of the proposed standards;*
- *flexibility for local community-based variations to non-health related standards;*
- *public disclosure of water quality information; and*
- *obligations tailored to ensure that authorities understand and manage risks to drinking water quality.* (State Government of Victoria 2002)

A further discussion paper, *Proposed Standards for Drinking Water Quality in Victoria*, was released at the same time as the proposals paper. The discussion paper is the first step in developing regulations to establish drinking water quality parameters. To assist in assessing the impact of

drinking water quality standards, a further document was circulated requiring water authorities to provide information on the expected impact of the proposals on their businesses.

Victoria has informed the Council that it is expected that a set of proposals will be considered by Cabinet before the end of the year, based on the outcomes of the most recent round of consultation. Standards for drinking water quality will be specified in regulations, which would be made following the passage of safe drinking water legislation.

Following the passage of the regulation, a regulatory impact statement is to be undertaken and it is envisaged that regulated standards will be in place within three to six months thereafter, that is, by December 2003.

Water services agreements

Water service agreements have been signed for each of Victoria's 15 regional urban water businesses. Work is progressing on the water services agreements for the five rural water businesses, which are customising the rural water services agreement template to reflect their specific business situations. It is expected that the agreements will be signed off by June 2002. At this stage the Council is not in a position to assess the implications of any modifications the rural water authorities have made to the template agreement.

The agreements are yet to be publicly released. Victoria has said that, consistent with the Government's proposal to develop a suite of instruments to regulate the water industry, the obligations in the agreements will be rolled into proposed statements of obligations to be developed for each water authority. It is proposed that the statements of obligations will be publicly available. The Department of Natural Resources and Environment monitors performance quarterly against the obligations and performance standards in these agreements.

Institutional reform issues that arise from the review of Victoria's water legislation

The Victorian government finalised its response to the NCP review of Victoria's water legislation at the end of June 2002. Victoria has provided a copy of this report to the Council. Given the report was not received until very late in the Council's assessment process it has not been reported as part of this assessment. The Council will consider the report in the 2003 NCP assessment.

The Environment Protection Authority review of the regulatory arrangements for septic tanks

The Victorian government has noted that the issues relevant to the separation of regulatory and service provider roles that were covered in this review are being considered in the context of the broader NCP review of water legislation. Again the Council does not have the Government's response to that review and cannot report on how this issue has been addressed.

Water trading

Progress report: The extent to which the 2 per cent rule is reached, and other mechanisms to manage this issue

Next full assessment: The Council will assess intrastate trading arrangements in 2003, and interstate trading arrangements in 2004.

Reference: Water reform agreement, clause 5

Background

Within the regulated systems, the primary concerns the Council had at the time of the 2001 NCP assessment of intrastate trading, were the regulations that restricted who can trade water, where it can be traded, and caps on the volume of water that may be transferred out of an irrigation area.

Of particular concern was the '2 per cent rule' which allows authorities to refuse trades that would result in more than 2 per cent of the total water entitlement being transferred from an irrigation district in any given financial year. The regions which use the 2 per cent rule are shown in box 3.2.

Box 3.2: Irrigation areas and districts which employ the 2 per cent rule

- Cohuna, Kerang, and Swan Hill irrigation areas;
- Murray Valley irrigation areas;
- Shepparton irrigation areas;
- Rodney and Tongala irrigation areas;
- Rochester irrigation areas;
- Pyramid Hill and Boort irrigation areas;
- Campaspe irrigation district; and
- Merbein, Red Cliffs and Robinvale irrigation districts.

Source: NCC (2001b, p.103)

The Council recognised that this restriction was in place due to community concern that excessive water traded out of a district may result in:

- **a negative impact upon local production;**

-
- reduction in the rate base for local governments;
 - corresponding regional decline; and
 - the loss of economies of scale for irrigation infrastructure, with remaining members required to assume a greater proportion of the fixed costs.¹³

In assessing the impact of this rule, the Council noted advice from Victoria that the rule had only been invoked twice and did not significantly suppress trade. With regard to the two instances cited, Victoria advised that the net trade out of the Torrumbarry system in the 1998-99 irrigation season reached the 2 per cent level in mid-February 1999. Any applications made after that time were approved to come into effect on 1 July 1999. The second example was in Nyah, where trade out of the system reached the two per cent level on 28 February 2001. No applications for transfers were received after this time.

In examining the effect of this rule in Victoria the Council's view was that the rule did not substantially impede trade in 2000-01. The rule had only been invoked twice, with both instances occurring toward the end of the irrigation season. Trade had generally been delayed rather than prevented. However, as trade increases, these limits are likely to be reached more often.

Victorian progress

Trade out of irrigation districts

Victoria's 2002 NCP annual report argues that the 2 per cent rule provides a useful mechanism to manage community concern resulting from water trading out of districts and the rate of structural adjustment. Victoria does not believe the rule suppresses trade. However, it is investigating other options such as exit fees and argues any such options need to be carefully approached to ensure they do not hinder trade and structural adjustment. Victoria has not reported any further instances of the 2 per cent rule affecting trade since those discussed in the Council's 2001 NCP assessment.

The rate of return differential on rural water authority assets

In Victoria, a 4 per cent return on assets is charged for water supplied by rural water authorities to regional urban customers but not for water supplied to irrigators.

In the 2001 NCP assessment, the Council supported the consultant's findings that the differential between the returns earned by Goulburn-Murray Water, Southern Rural Water and Wimmera Mallee Water on services to rural

¹³ Also known as 'stranded assets'.

customers and service to regional urban customers creates distortions in the temporary market for water trading.¹⁴ The Marsden Jacob report suggested the Victorian Government clarify and confirm future policy for bulk water pricing to ensure compliance with CoAG water reform. The proposed solution is to charge the same return on all water users.

For 2002, Victoria reports that the current pricing arrangements for sales of bulk water involving differential rates of return have not been shown to suppress or distort trade in the water market in Victoria. While urban water businesses are involved in the temporary trading market, approximately 98 per cent of water trading in Victoria occurs between irrigators. Thus, farmers set the price at which water trades on the market.

Victoria agrees with the consultants finding that the differential rates of return have the potential to distort pricing signals and has committed to reviewing the current pricing arrangements for bulk water supply prior to the Essential Services Commission determining prices for this service in 2003. The outcome of the review will be reflected in the pricing principles and price controls being developed for the rural sector.

¹⁴ The charge for supply to country towns is higher than the charge to irrigators for water from the same system.

Attachment 1: Rural full cost recovery forecast

Full cost recovery forecast in the rural sector, June 2002

	<i>First Mildura Irrigation Trust</i>	<i>Gippsland and Southern</i>	<i>Goulburn– Murray</i>	<i>Sunraysia</i>	<i>Wimmera Mallee</i>
	\$ million				
Revenue					
Bulk, service and usage	4.587	14.889	62.837	11.254	12.414
Other	0.393	1.118	35.995	1.854	1.925
Total Revenue	4.980	16.007	98.832	13.108	14.339
Expenses					
Operations, maintenance and administration	3.071	9.43	81.877	8.787	10.149
Finance charges	0	0	0.164	0	0.033
Other	0.467	1.909	2.530	0.236	1.232
Renewals annuity	0.934	1.999	14.775	2.207	2.763
Total expenses	4.472	13.338	99.345	11.230	14.177
Surplus/(deficit)	0.508	2.669	(0.513)	1.878	0.162

Source: State Government of Victoria (2002)

Attachment 2: Goulburn-Murray Water -Cost recovery of major business services -June 2002 (\$'000s)

Irrigation Supply Services

	<i>Murray Valley Gravity Irrigation</i>	<i>Shepparton Gravity Irrigation</i>	<i>Central Goulburn Gravity Irrigation</i>	<i>Rochester Gravity Irrigation</i>	<i>Campaspe Gravity Irrigation</i>
Revenue					
Bulk, service and usage	7,784.6	5,563.0	11,348.9	4,451.4	812.8
Other	193.5	97.4	75.3	49.5	1.4
Total Revenue	7,978.1	5,660.4	11,424.2	4,500.9	814.2
Expenses					
Operations, Maintenance & administration	6,163.8	4,728.3	8,839.5	4,052.2	510.9
Finance	-	-	-	-	-
Renewals annuity	1,439.4	1,075.7	4,116.2	1,704.0	309.4
Total Expenses	7,603.2	5,804.0	12,955.7	5,756.2	820.3
Surplus/(Deficit)	374.9	- 143.6	- 1,531.5	- 1,255.3	- 6.1

	<i>Pyramid-Boort Gravity Irrigation</i>	<i>Torrumbarry Gravity Irrigation</i>	<i>Woorinen Gravity Irrigation</i>	<i>Nyah Pumped Irrigation</i>	<i>Tresco Pumped Irrigation</i>
Revenue					
Bulk, service and usage	4,619.5	10,560.8	451.0	477.6	399.0
Other	110.4	112.8	2.0	13.6	1.9
Total Revenue	4,729.9	10,673.6	453.0	491.2	400.9
Expenses					
Operations, Maintenance & administration	5,324.6	8,841.7	341.5	441.6	335.5
Finance	-	-	72.7	-	-
Renewals annuity	145.0	1,212.1	384.0	39.3	62.9
Total Expenses	5,469.6	10,053.8	798.2	480.9	398.4
Surplus/(Deficit)	- 739.7	619.8	- 345.2	10.3	2.5

Source: State Government of Victoria (2002, unpublished)

Attachment 3: State of play on Victoria's nominated stressed rivers program

<i>River system</i>	<i>Current status</i>	<i>Additional considerations</i>	<i>Proposed actions</i>
Thomson River	<p>No flow specified for upper reaches above Cowwar Weir. Scientific determination of environmental flows is being provided for the upper reaches.</p> <p>The bulk entitlement is complete. The 25 megalitres per day at lower reaches below Cowwar Weir has increased to 125 megalitres per day. The recommended environmental flow has been provided.</p>	The scientific panel recommended that additional work was required to address the implications of water extraction on other aspects of the flow regime and the need to undertake associated catchment and habitat works.	<p>A consultant has been commissioned to develop a water activity plan and a flow rehabilitation plan. The flow rehabilitation plan will categorise the level of flow stress on all aspects of the flow regime and develop options for addressing any stress identified. The water activity plan will identify all actions required to improve the health of the Thomson River.</p> <p>Increased environmental flows in lower reaches has resulted in a loss of supply certainty for water users. The Government is committed to on-farm efficiency savings to offset the impacts.</p>
Avoca	The streamflow management plan is under way.	There is a concern regarding the appropriate watering of the Avoca marshes.	A project, the Lower Avoca Wetland Management Study, to identify how to improve the health of the wetlands will commence in 2002. The \$166 000 project will identify processes affecting wetlands, provide clear objectives, determine environmental water requirements, and integrate actions to minimise problems into broader plans.
Loddon	The bulk entitlement is under way. The preliminary assessment of the environments' water requirements has identified the need to review the minimum flows and provisions for fresher flows.		Once the bulk entitlement is complete a flow rehabilitation plan will be developed to categorise any ongoing flow stress in the system and to identify actions to address these. Further, the proposed construction of the Wimmera–Mallee pipeline provides a potential to end the transfer of water from the Loddon to the Wimmera and use that water to improve Loddon flows.
Glenelg	The bulk entitlement is under way. Water savings from the Northern–Mallee pipeline have already been returned to the Glenelg River. In 2003, this will be in the order of 13 880 megalitres.*	There is a concern regarding the provision of summer and autumn flushes and on occasion high winter flows.	The Victorian Government has committed \$77 million to the building of the Wimmera–Mallee pipeline. Initial studies have identified this will provide significant water savings that can be returned to the Glenelg River for environmental flows. A detailed feasibility study of the pipeline will be commissioned shortly. The water savings from this study will further improve the ability to meet

<i>River system</i>	<i>Current status</i>	<i>Additional considerations</i>	<i>Proposed actions</i>
			environmental flows.
Broken	The bulk entitlement is in its final stages. The project group overseeing the bulk entitlement has agreed in principle.	Additional concerns were in-stream barriers and the high turbidity emanating from Lake Mokoan.	Funds have been allocated to improve fish passage in the Broken River and passage has been improved. However, implementation of additional fish passage is on hold until the Cooperative Research Centre for Freshwater Ecology Campaspe flow study is complete (the Broken River is a control in that study). Additional improvements to flows could be realised from the review of Lake Mokoan and the consideration of pipelining the Tungamah domestic and stock district. Feasibility studies for both of these projects have been commissioned.
Lerderderg	The bulk entitlement is complete and the recommended flow has been provided.	There is a concern about the removal of summer flushes and extending the low summer flow period.	A flow rehabilitation plan has commenced. The plan will categorise the level of any flow stress in the system and identify actions to ameliorate these.
Badger	The bulk entitlement is under way.		The environmental flows in Badgers Creek will be addressed when the water supply to Healesville is upgraded. The improvement of flow will then be undertaken by the authority and paid for by users. In the interim, Melbourne Water will undertake habitat and physical works to ameliorate stress in the Creek.
Maribyrnong	The bulk entitlement and streamflow management plan is complete. Passing flows at three locations have been specified. In two instances the flow provided was higher than that recommended (3 vs 1.8 megalitres per day, and 10 vs 7 megalitres per day). In the last instance it was slightly lower (5 vs 7 megalitres per day). The recommended flow of 8 megalitres per day in the streamflow management plan has not been met but the passing flow has increased from 0 to 3 megalitres per day.		A flow rehabilitation plan has commenced. This plan will review the environmental flow provisions and categorise levels of flow stress in the system. The plan will identify actions to ameliorate flow stresses.

<i>River system</i>	<i>Current status</i>	<i>Additional considerations</i>	<i>Proposed actions</i>
Additional Rivers			
Macalister	The bulk entitlement is complete. The environmental flows have been improved from 15 megalitres per day to 60 megalitres per day at Maffra Weir (reduced to 30 megalitres per day during drought conditions). However, the recommended flow of 125 megalitres per day has not been met.	The scientific panel recommended that additional work was required to address the implications of water extraction on other aspects of the flow regime.	A consultant has been commissioned to develop a flow rehabilitation plan. The flow rehabilitation plan will specifically look at categorising the level of stress caused by the water extraction across the flow regime and the options for addressing any stresses identified.
Wimmera	The bulk entitlement is under way. Water savings from the Northern–Mallee pipeline have already been returned to the Wimmera River. In 2003, this will be in the order of 20 820 megalitres.*	Preliminary assessment indicates that minimum flows, fresher and flushing flows all need to be improved.	The Victorian Government has committed \$77 million to the building of the Wimmera–Mallee pipeline. Initial studies have identified that this will provide significant water savings that can be returned to the Glenelg River for environmental flows. A detailed feasibility study of the pipeline will be commissioned shortly. The water savings from this study will further improve the ability to meet the environmental water requirements.
Snowy	The Snowy rescue package will return 21 per cent of the flow (212 000 megalitres) to the river over 10 years.		

* The Northern Mallee pipeline will be completed in July 2002 and will return 35 500 megalitres of water to be shared between the Wimmera and Glenelg rivers. The project has been completed in seven stages and water generated from stages 1–6 have already been released into the Wimmera and Glenelg rivers.

Source: Department of Natural Resources and Environment (2002, unpublished)

Attachment 4: Environmental flows achieved in the bulk entitlement program

<i>River system description</i>	<i>Previous environmental flow</i>	<i>Revised environmental flow</i>
Goulburn River (major dam and weir for irrigation supply in central Victoria)	120 megalitres per day at Lake Eildon End of system not specified	250 megalitres per day at Eildon 80 gigalitre flush in November 350 megalitre per day at the end of the system (McCoys Bridge)
Moorabool river (major urban supply for Geelong and Ballarat)	5 megalitres per day at Lal Lal Reservoir No environmental flow specified at Sheoaks diversion weir	20 megalitres per day at Lal Lal Reservoir 40 megalitres per day at Sheoaks diversion weir
Latrobe River (power generation and irrigation supplies in Gippsland)	75 megalitres per day at Blue Rock Dam 8 megalitres per day at Moondarra Dam No environmental flow specified for lower reaches	90–150 megalitres per day (depending on the month) at Blue Rock Dam 30 megalitres per day at Moondara Dam 500 megalitres per day at Rosedale 750 megalitres per day at Swing Bridge
Broken River (major irrigation system in northern Victoria)	25 megalitres per day at Broken Weir 15 megalitres per day at Gowangardie Weir	34 megalitres per day at Broken weir 25 megalitres per day at Gowangardie Weir

Source: Department of Natural Resources and Environment (2002, unpublished)

Attachment 5: Environmental flows achieved in the streamflow management plan program

<i>River System Description</i>	<i>Previous environmental flow</i>	<i>Revised environmental flow</i>	<i>Comment</i>
Narracan Creek (Moe water supply)	None specified	11 megalitres per day at the diversion weir	Maximum diversion rate capped at 16 megalitres per day
Easterbrooke Creek (Thorpdale water supply)	None specified	1 megalitre per day	Maximum diversion rate capped at 1.73 megalitres per day
Merri streamflow management plan (moderate-size river system in south-west Victoria)	None specified	10 megalitres per day, protection of summer flushes and winterfill cap of 500 megalitres per year	
Upper Latrobe streamflow management plan (large unregulated river system in Gippsland)	None specified	100 megalitres per day	
Gellibrand streamflow management plan (large unregulated river system in southern Victoria)	None specified	Complex sharing arrangements have been developed with the rural and urban water users in dry years. Water sharing and the protection of environmental values are not an issue in other years	
Hoddles Creek streamflow management plan (small creek in the Upper Yarra Valley)	None specified	5 megalitres per day	Agreed by project group, but not yet ratified by the community

Note: All streamflow management plans have caps on the existing level of development in summer, and caps for winter either are incorporated or will be incorporated through the sustainable diversion limit process.

Source: Department of Natural Resources and Environment (2002, unpublished)

4 Queensland

Outstanding assessment issues

Full cost recovery - urban

Outstanding issue: Queensland is to improve the financial performance of local governments outside the Big 18 with greater than 1000 connections in line with CoAG pricing principles.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(a)

Background and Queensland arrangements

Services with more than 5000 connections, outside the big 18

The 2001 National Competition Policy (NCP) assessment reported that in 1999-2000 five water businesses and seven wastewater businesses earned sufficient revenue to recover all elements of the Council of Australian Governments (CoAG) pricing guidelines lower bound (except tax equivalent payments). Of the local governments in the group that did not recover the lower band:

- Mount Isa would apply full cost pricing from 1 July 2001;
- Redcliffe was undertaking another assessment of full cost pricing;
- Burdekin and Cooloola were yet to make a decision; and
- Johnstone decided not to apply full cost pricing.

At that time, the Council also anticipated that the Local Government Association of Queensland and the State Government would, as a priority, work with Redcliffe, Burdekin and Cooloola to ensure they have sufficient information to make a decision before the 2002 NCP assessment.

All local governments with more than 5000 connections, but outside the big 18 have now implemented, or are committed to implementing full cost pricing. Mount Isa, Cooloola, Livingstone, Beaudesert and Burnett

implemented all elements of full cost pricing as at 30 July 2001. Redcliffe, Gladstone, Maryborough, Johnstone, Warwick and Burdekin have resolved to implement full cost pricing by 30 June 2003 using a phased approach as recommended by the BMAP program.

Services with between 1000 and 5000 connections

For local governments with between 1000 and 5000 connections the Council's 2001 NCP assessment noted that there were still a significant number of local governments that were either still considering full cost pricing or that had decided not to introduce full cost pricing. For these service providers the Council said it would look for the Queensland Government's Business Management Assistance Program (BMAP) to promote CoAG pricing principles, and assist local governments to improve their financial performance.

The Queensland government has reported a significant improvement in reform implementation by these local governments (see table 4.1). All but one decided to implement full cost recovery.

Table 4.1: Local government services with between 1000 and 5000 connections

<i>Local government commitment</i>	<i>2000-01 (number of councils)</i>	<i>2001-02 (number of councils)</i>
Have implemented full cost pricing	2	4
Will implement full cost pricing	11	36
Considering full cost pricing	23	0
Not considering full cost pricing	7	1

Source: Queensland Government (2002, unpublished)

There are 125 local governments in Queensland. Of these only six have neither implemented water reforms nor committed to their implementation by 2003. Of these six, Balonne has 1450 water connections and the remaining five are small service providers with less than 1000 connections.

Discussion and assessment

Queensland has achieved a high degree of success through the BMAP program. While there has not been full implementation by all local governments there have been substantial gains in the level of implementation since the program commenced. There has also been a substantial increase in the level of understanding within local government about the reforms and their benefits.

The Council considers that Queensland has met its 2002 NCP commitments for the implementation of full cost recovery by local government. In 2003 the Council will review whether implementation has been progressed consistent with the resolutions made by local governments to further pursue reform over the next 12 months.

Full cost recovery – water boards

Outstanding issue: The Council will review levels of cost recovery, including rates of return, following corporatisation of Gladstone Area Water Board, Townsville-Thuringowa Water Supply Board and Mount Isa Water Board.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(a)

Background

At the time of the Council's 2001 NCP assessment the information on cost recovery levels for Gladstone Area Water Board, Townsville-Thuringowa Water Board and Mount Isa Water Board was only available for the period prior to commercialisation.

The Council's assessment noted that it would look for competitive neutrality adjustments such as tax equivalents, and commercial rates of return in the 2002 assessment.

Queensland arrangements

Gladstone Area Water Board

On 14 September 2000, the Premier and Treasurer issued a declaration and referral notice under the *Queensland Competition Authority Act 1997* initiating an investigation of the pricing practices of the Gladstone Area Water Board. The Queensland Competition Authority (QCA) was also directed to consider the weighted average cost of capital proposed by the Gladstone Area Water Board, appropriate pricing for excess capacity and capacity augmentation, and identification and pricing of any contributed assets.

On 1 October 2000, the Gladstone Area Water Board introduced new pricing practices based on CoAG principles of full cost recovery and consumption based pricing. These pricing practices have been implemented for some customers, including the Gladstone City Council and Calliope Shire Council and interim arrangements pending finalisation of the QCA report have been introduced for others. However, many users are still bound by long term contractual arrangements set under the previous pricing policy.

The QCA's draft report contains a series of detailed recommendations regarding the components of the Gladstone Areas Water Board's pricing methodology. At the aggregate level, implementation of the QCA's recommendations would see Gladstone achieve a positive operating profit by 2005-06. However, achievement of this profit remains very sensitive to actual demand for water.

The QCA's draft report was publicly released in November 2001 and is available on the QCA website (www.qca.org.au). The closing date for submissions on the draft report was 25 January 2002 with a final report expected by mid-2002.

Table 4.2: 2000–01 audited financial results – Gladstone Area Water Board

	<i>Operating Revenue</i> \$M	<i>Expenses</i> \$M	<i>EBIT</i> \$M	<i>Interest</i>	<i>Tax/TERS</i> \$M	<i>Dividends</i> \$M	<i>Assets^a</i> \$M	<i>ROR</i> %
GAWB	15.825	13.455	3.627	2.396	1.028	1.5 ^b	243	1.49

^a At 30 June 2001

^b The dividend of \$1.5M relating to the 2000-01 financial year was not paid until December 2001.

Note – Tax equivalent and dividend payments are returned to local government customers of GAWB. GAWB is subject to prices oversight by the QCA.

Source: Queensland Government (2002)

Mount Isa Water Board

As noted by Queensland in its 2001 NCP annual report, the Mount Isa Water Board charges for water on the basis of a two-part tariff arrangement. There were no changes to the Board's pricing policy in 2000-01, and no increase in its limited customer base.

Table 4.3: 2000-01 audited financial results – Mount Isa Water Board

<i>Service Provider</i>	<i>Operating Revenue</i> \$M	<i>Expenses</i> \$M	<i>EBIT</i> \$M	<i>Interest</i>	<i>Tax/TERS</i> \$M	<i>Dividends</i> \$M	<i>Assets^a</i> \$M	<i>ROR</i> %
MIWB	6.092	5.487	1.588	_b	0.407	0.313 ^c	43.653	3.64

^a At 30 June 2001

^b MIWB has no debt

^c Provision for dividend. No actual dividend payment made. Capital restructuring resulting in a special dividend will be effected in 2001-02.

Note - Tax equivalent and dividend payments are returned to local government customers of MIWB. MIWB is subject to prices oversight by the QCA.

Source: Queensland Government (2002)

NQ Water

An update on the commercialisation of the Townsville–Thuringowa Water Supply Board is provided in the progress report on NQ Water’s commercial focus.

The financial statements currently available to the Council relate to the operation of the Water Supply Board prior to commercialisation, when no competitive neutrality adjustments were made. It is anticipated these adjustments will be made to the 2001-02 results following the application of full cost pricing principles.

Table 4.4: 2000-01 audited financial results – Townsville–Thuringowa Water Supply Board

	<i>Operating Revenue</i> \$M	<i>Expenses</i> \$M	<i>EBIT</i> \$M	<i>Interest</i>	<i>Tax/TERS</i> \$M	<i>Dividends</i> \$M	<i>Assets</i> \$M	<i>ROR</i> %
TTWSB	27.852	27.711	0.141	n/a	n/a	n/a	187.257	0.08

Note - The Government has instigated the process for declaring the TTWSB subject to the State’s prices oversight regime.

Source: Queensland Government (2002)

The methodology used to calculate the rates of return for the Gladstone Area Water Board, Mount Isa Water Board, and the Townsville–Thuringowa Water Supply Board mirrors the method used by the QCA. The method correlates with the principles of full cost pricing as published in *“Full Cost Pricing in Queensland Local Government – A Practical Guide”*.

Discussion and assessment

The information provided indicates that prices for both Gladstone Water Board and Mount Isa Water Board include competitive neutrality adjustments and a positive rate of return, and have met 2002 NCP commitments.

The information provided for the Townsville–Thuringowa Water Board is prior to commercialisation. The Board has indicated its intention, however, to comply with the CoAG full cost recovery obligations. For the 2003 NCP assessment, the Council will review more recent (post commercialisation) information for NQ Water to ensure that full cost recovery has been achieved.

Consumption-based pricing

Outstanding issue: Queensland is to demonstrate progress on Townsville's two-part tariff arrangements.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

The Council recognises that the benefits from two-part tariffs in stimulating more economical water use and deferring investment are likely to be greatest for the largest service providers. Therefore, it is concerned about the lack of progress by Townsville, one of Queensland's largest local governments.

In a June 2000 NCP supplementary, the Council recommended that 5 per cent (or \$4.3 million) of Queensland's payments be withheld due to insufficient progress by Townsville and two smaller local governments. This suspension was lifted in January 2001 when Townsville agreed to bring forward formal resolution of this matter to June 2001.

In the 2001 NCP assessment, the Council recognised that the Queensland Government had been proactive in progressing reform at all levels of local government. The Business Management Assistance Program, designed to assist small local governments to implement reform, is a good example of this. The State Government also worked with larger local governments, including Townsville, to encourage a rigorous approach to considering water reforms.

For the 2001 NCP assessment, the Townsville Council failed to demonstrate that it had objectively analysed the cost effectiveness of two-part tariffs and provided a public interest justification on why it would not implement price reforms. Two years had passed since the Council first expressed its concerns and these matters were still to be resolved. Consequently, the Council recommended a permanent reduction in Queensland's competition payments of \$270 000 from 2001-02. This amount reflects an approximation of the remaining money Townsville was entitled to receive through the Queensland Government's Financial Incentives Package for local governments who undertake reform.

The Council chose this approach to reflect the Queensland Government had proactively encouraged reform, where it is in the public interest. However, Townsville has failed to assess objectively the cost effectiveness of two-part tariffs, consistent with the NCP guidelines.

The Council stated it would reconsider Townsville's approach to two-part tariffs in its 2002 NCP assessment. At that time it would look at both progress made by Townsville and the Government's efforts to resolve the issue. It would then reconsider whether a continued reduction in NCP payments is warranted and the appropriate size of any such reduction.

Queensland arrangements

Townsville City Council has commissioned independent consultants to carry out a second assessment of its two-part tariff pricing policies. The Queensland Government's *Guidelines for Evaluation of Introducing and Improving Two-Part Tariffs* were used as the framework to evaluate the benefits and costs of introducing two-part tariffs.

In January 2002, the Mayor of Townsville wrote to the Queensland Government outlining Townsville's position on two-part tariff arrangements. The Mayor advised that the second two-part tariff cost effectiveness report analysed all the issues pertaining to the issue and recommended against such a pricing structure for residential customers. The two-part tariff report concluded:

- the net present value of the costs of phased introduction of a two-part tariff over a five year period range from \$1.45 million to \$3.5 million depending on the treatment of meter upgrade costs;
- the financial benefits of introducing a two-part tariff for all customers are limited due to extremely high levels of fixed, non-volume related costs – these costs are up to 95 per cent of the budgeted costs of supplying water;
- the only significant financial benefit is increased revenue (a maximum of \$84 000 per year) from upgrade of the meter fleet. The net present value of this increase in revenue is estimated at \$1.2 million over a 20 year period; and
- the benefit/cost ratio is between 0.34 and 0.83.

The two-part tariff report also listed other public interest reasons for not recommending the implementation of a two-part tariff for residential customers, including:

- major reductions in demand by middle and high users would significantly impact on the corporate vision of Greening Townsville;
- further investigation is required to mitigate an expected high level of impact on various customer groups;
- reducing water use would force prices to rise further due to the high level of fixed costs; and
- the stability of revenue is of concern due to the unknown level of initial impact on demand resulting from the price increases.

The findings of Townsville's second report are currently being assessed by the QCA as part of its assessment of local governments' progress in implementing competition reforms under the *Local Government Financial Incentive Payments Scheme*. The QCA has advised it will assess whether Townsville's second report meets the requirements set down in the Government's

Guidelines for Evaluation of Introducing and Improving Two-Part Tariffs and whether the recommendations rejecting the implementation of two-part tariff arrangements for the residential sector are supported by rigorous analysis. The QCA review has not yet been completed, however, the Government have undertaken to inform the National Competition Council of the QCA's findings on completion of the review.

Discussion

The Council requests copies of all cost effectiveness studies that recommend against implementing two-part tariffs for water and sewerage service provision, or where the recommendation to implement is rejected by the provider. Consistent with this practice, the Council has reviewed a copy of the two-part tariff cost effectiveness report for Townsville and raised several potential concerns with the Queensland Government.

- Whether the estimates of price increases include both two-part tariffs and the move to full cost recovery.
- Whether the meter replacement costs and revenue gains take into account that meters will need to be replaced anyway.
- The 'Greening Townsville' objective seems to imply that any reduction in water consumption would mean that two-part tariffs would not be adopted.
- The lack of cost savings is based on the premise that NQ Water does not volumetric price.

The Council noted in previous Queensland NCP annual reports it is stated that NQ Water has a volumetric pricing arrangement in place. The Council requested specific information on whether NQ Water does volumetric price and whether the pricing policy provides customers with an incentive to reduce consumption. The Queensland Government is aware of these concerns, and has confirmed that the QCA will consider them as part of its review of the two-part tariff study.

Assessment

There has been some progress on this issue since the 2001 NCP assessment, and the Council supports the Queensland Government's decision to have the QCA review the second Townsville study. It has now been three years, however, since the Council first expressed its concern that Townsville had not resolved the outstanding consumption-based pricing issue.

In the 2001 NCP assessment, the Council recommended a permanent reduction in Queensland's NCP payments of \$270 000 from 2001-02 until two-part pricing is introduced, or satisfactory evidence is provided to the

Council to demonstrate that consumption-based pricing would not be cost effective. This outcome has not been achieved. For this assessment, Queensland has yet to satisfy the Council that it has met NCP obligations in relation to the application of two-part tariffs for urban water supplies in Townsville. The implications of this issue for Queensland's NCP payments are considered in the Council's findings and recommendations section in volume 1 of the NCP assessment report.

Queensland's request for the QCA to review Townsville's two-part tariff report and to specifically consider the concerns raised by the Council indicates the Government's commitment to resolving this issue. The Council will look at this review, and the responses of both the Queensland Government and Townsville Council, in the 2003 NCP assessment of urban pricing reform.

Consumption-based pricing – trade waste charges

Outstanding issue: Rigorous consideration of the introduction of trade waste charges by Queensland local governments where cost effective.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

For the 2001 NCP assessment, the Council understood that some local governments levied trade waste charges but no details of these charges had been provided. The Council stated that it would further consider the issue of trade waste charges in the 2002 NCP assessment.

Queensland arrangements

Queensland have advised that the *Environmental Protection Act 1994* and the *Environmental Protection (Waste Management) Policy 2000* require local governments operating sewerage systems to have begun implementation of a trade waste environmental plan by 30 June 2002. To support this legislation the Department of Natural Resources and Mines has produced a model trade waste environmental plan, a copy of which has been provided to the Council. The model plan is a best practice management framework based on four policy instruments:

- sewer admission limits (acceptable concentration/mass limits for sewerable wastes);

- **conditional trade waste approvals (permits for smaller generators and agreements for larger generators);**
- **“user pays” pricing (based on volume and strength of discharge); and**
- **effluent improvement programs.**

Local governments are encouraged to cost their trade waste services on a full cost recovery basis. The full cost of collecting, treating and administering trade waste from trade waste generators through charges and fees is set on a user pays basis. All local governments must have begun implementing and complying with the trade waste environmental plan by 30 June 2002 if they operate a sewerage business. Advice from the Department of Natural Resources and Mines indicates that the model plan has widespread industry support and is seen as the benchmark for sewerage business pricing throughout Queensland.

Box 4.1: Model trade waste environmental plan – trade waste charges

The plan suggests a number of different approaches to the structuring of trade waste levies and charges. Generally, the preferred approach is to segment trade waste generators into consumer segments according to their demands on the sewerage system. To this end most local governments divide their trade waste generators into:

Category 1 users – Low flow, Low strength, generally smaller commercial concerns;

Category 2 users – Low strength, high flow, medium to larger operators; and

Category 3 users – High strength, high impact manufacturing and industrial concerns.

Some local governments choose to further segment category three into high strength/low flow and high strength/high flow consumer segments. For example, Brisbane City utilises this fourth customer segment. These segments then pay differing fee schedules:

Category 1 users:

- a fixed annual charge that includes the cost of administration and overheads, the transportation and treatment of domestic grade waste, and the costs of compliance and inspection.

Category 2 users:

- a fixed annual charge that includes the cost of administration, overheads, inspection and compliance testing; and
- a variable periodic charge based on the volume of trade waste generated.

Category 3 users:

- a fixed annual charge that includes the cost of administration, overheads, inspection and compliance testing;
- a variable periodic charge based on volume and quality of the waste, taking into the number, type and concentration of pollutants released into the sewerage system; and
- a further unit charge is applied for quantities of particular nominated pollutants depending on the individual business (typical pollutants mentioned are phosphates, total organic carbons, chemical oxygen demand).

Source: Queensland Government (2002, unpublished)

Given the variety of charging methods used by local governments¹, it is difficult to compare the different charging regimes. However, an analysis by the Department of Local Government and Planning found that 15 of the big 18 local governments were currently operating a charging structure similar to the Department of Natural Resources and Mines model trade waste environmental plan. The remaining three were in the process of adopting a policy and pricing structure very similar to the plan.

The Council sought further information from Queensland to demonstrate that local governments outside the big 18 have undertaken rigorous consideration of the introduction of trade waste charges. The Department of Local Government and Planning has conducted a telephone survey of 14 medium sized regional local governments considered to be potential locations for major trade waste emitters.² The local governments surveyed were selected due to the likely presence of one or more sugar mills, abattoirs, piggeries, large feed lots or mineral processing plants. The survey found these operations do not generally discharge to sewers and do not factor as major trade waste emitters.

Where local governments do serve major waste emitters the model trade waste environmental management plan has been adopted, and pricing based on volume and strength of discharge occurs. To summarise the survey results:

- seven local governments have implemented the model plan;
- three local governments are in the process of implementing the model plan before the end of the calendar year;
- one local government is reviewing the plan with a view to implementation by 30 June 2003;
- two local governments could not respond to the survey; and
- one local government has not yet responded to the survey.

In the four cases where local governments do not yet have the model trade waste environmental management plan in place, the local government officer indicated that no major emitters discharge to sewers within their local government area.

In relation to compliance with the *Environmental Protection (Water) Policy 1997*, the Department of Local Government and Planning intends to survey all 125 Queensland local governments in January 2003 to ascertain the level of acceptance of the model trade waste environmental management plan. This

¹ Charging methods are based on the industrial/commercial composition of local trade waste generators, and the nature of sewerage/treatment systems.

² That is, emitters defined as category 3 emitters under the model trade waste environmental management plan.

survey will be conducted as a part of the normal data collection process for Queensland's 2003 NCP annual report.

Discussion and assessment

The Council is satisfied from the information provided by Queensland that it has a program in place to encourage the adoption of trade waste charges. The program is being implemented by local government and Queensland has a mechanism to review and assess the level of implementation.

The Council concludes that Queensland has met its reform commitments for 2002. In the 2003 NCP assessment, the Council will consider the results of the Department of Local Government and Planning survey of compliance with the Environment Protection (Water) Policy 1997, including assessing the charging structures, particularly among the big 18, to confirm that they do reflect the principle of user pays.

Allocations: Provision for the environment

Outstanding issue: Queensland is developing a new Condamine–Balonne water resource plan. The Council is looking to ensure that the new plan is consistent with CoAG commitments, and that the associated resource operations plan is under way. Queensland should further consider all relevant issues raised in submissions in determining the final plan.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b–f)

Background

In 2001, the Council considered that Queensland had generally met its environmental commitments with the exception of the Condamine–Balonne Basin. The Council found emerging evidence that the basin is a stressed river system.

The Council examined the adequacy of the three options contained in the draft Condamine–Balonne water resource plan (WRP) to address the environmental problems identified. It concluded that if any of the three options were implemented, then it may be appropriate to recommend a substantial penalty in the 2002 NCP assessment for noncompliance with reform commitments.

For the 2002 NCP assessment, the Council was expecting to see that a final WRP for the Condamine–Balonne consistent with CoAG water reform commitments and the associated resource operation plan (ROP) is well under way.

Queensland arrangements

A draft WRP, (formerly referred to as a water allocation and management plan), was released for the Condamine–Balonne Basin in June 2000 for public review and submissions. Some 230 public submissions received on the draft plan have since been collated and considered by the Queensland Minister. On 13 September 2000, the enactment of the *Water Act 2000* established the statutory basis for developing WRPs. On 20 September 2000, in accordance with the new powers given to the Minister for Natural Resources and Mines under the Water Act, a comprehensive moratorium was placed on the starting of any new works on the Condamine–Balonne catchment that would lead to an increase in the taking of water either in watercourses or as overland flow water. This moratorium included a hold on the commencement of new works associated with overland flow development, those relating to the development of existing water licences, and those related to the issue of any new licences.

This moratorium has effectively put an interim cap on the capacity to divert and store water in the basin, while the Government considers all the relevant issues raised in submissions and further stakeholder consultation, to finalise the WRP.

The Government intends that the final WRP for the Condamine-Balonne will be consistent with CoAG water reform commitments. At the time of the writing, the Minister for Natural Resources and Mines was considering the issues associated with the draft WRP, including the option of releasing a new draft plan for public review and submissions. The new draft WRP would be likely to differ substantially from the June 2000 draft WRP, to comply with the requirements of the Water Act and deal with issues raised in submissions and consultations on the June draft. For this reason, a WRP for the Condamine–Balonne Basin will not be finalised until after June 2002.

Further detailed consultation with stakeholder groups since the release of the draft WRP in June 2001 have focused on issues that relate directly to the future implementation of a WRP and preparation of a ROP for the Condamine–Balonne Basin. One of the recent amendments to the Water Act was to expedite the earlier commencement of the resource operations planning process, so consultations undertaken on a draft WRP could be integrated more meaningfully with stakeholder discussions focused on the possible implementation of the WRP via the ROP.

Submissions

Issues concerning the Condamine–Balonne WRP have been received in submissions from Ian Brimblecombe, Chair of the St George Customer Council (2002, submission 4) and the World Wide Fund for Nature (2002, submission 16).

Ian Brimblecombe raised the following concerns about the impacts on irrigators of likely environmental provisions:

The community has serious concerns with the plan as being devastating to local communities both socially and economically. If a solution cannot be found the Council needs to address the issue of compensation to both irrigators and communities ... In my own case, the draft plan would have meant a reduction of over 60 per cent to the water available under my licences. (2002, submission 4)

The World Wide Fund for Nature supports the Council's 2001 NCP recommendations on the Condamine-Balonne WRP. Its submission argues that penalties should be imposed until Queensland commits to achieving sustainable levels of extraction in the basin, including meaningful and adequately funded mechanisms to achieve sustainable levels. Standing by concerns raised in the 2001 NCP assessment with regard to the WRP, the World Wide Fund for Nature made the following arguments.

- The draft WRP does not comply with the Water Act and thus the measures to achieve sustainable use will not be delivered on the ground.
- The Condamine–Balonne Basin has become overallocated only recently and subsequent to intergovernmental agreements, including the CoAG agreement.
- The scenarios under the draft WRP will not result in a sustainable balance between environment and consumptive uses.
- The Government commissioned expert scientific advice on environmental requirements but has ignored that advice in WRP scenarios with no sound justification. The Government is consciously planning to cause significant environmental damage.
- Little attempt has been made to develop strategies and mechanisms to meet recommended environmental flows. (It now appears that strategies are being developed but no formal communication has occurred on the content of such strategies.)
- The Government had not completed its study into economic impacts to justify its position that meeting the environmental flows would cause too much economic impact. Further, the study may be significantly flawed and not provide a sound basis for decision-making. (The study has now been completed but not publicly released.)
- The Government is willing to receive NCP payments but not to invest sufficiently to achieve the reform agenda with acceptable social impacts.
- Monitoring and review mechanisms are insufficient to ensure allocations are adequate and responsive to new information or changed circumstances.

The fund also provided the following arguments in respect of the national principles for the provision of water for ecosystems.

-
- *Principle 2.* Irrigator groups have been disingenuously attempting to discredit the scientific basis of allocation decisions and to delay decisions due to imperfect information. Decisions need to be made without perfect science, based on expert opinion and applying the precautionary principle.
 - *Principle 5.* Any solution for this WRP will need to be assessed once details are available. While the Narran Lakes has received significant attention as a Ramsar³ wetland, it is only one of the ecological values in a catchment with many high value wetlands. (2002, submission 16)

Discussion and assessment

The Council considers the Condamine-Balonne WRP is a critical issue for Queensland's compliance with its CoAG water reform commitments. The Council recognises that work is currently underway on attaining appropriate environmental allocations of water in the Condamine-Balonne Basin, including negotiations with the Commonwealth on assistance. Queensland has advised that finalising the Condamine-Balonne WRP is on hold whilst assistance measures are considered by a number of governments.

At the time of writing, the Queensland Government released a salinity hazard map for Queensland's section of the Murray-Darling Basin, including the Condamine-Balonne Basin. The map shows some 26 million hectares of land have the potential to develop significant salinity problems in the next 30-50 years. Extensive public consultation with key stakeholders was underway to develop urgent solutions to the problem. This consultation is to culminate in a forum on 2 August 2002 to discuss solutions. The Government stated that without urgent changes to land practices, serious salinity problems will threaten the environment as well as the existence of towns such as Dirranbandi and St George in the Condamine-Balonne Basin. The Queensland Government has recognised that salinity is but one issue that must be addressed in the broader context of water, vegetation management and land use issues.

Queensland has been discussing a wide range of possible options for addressing these issues with the Commonwealth and the New South Wales Governments. Options include the Queensland Government acquiring Cubbie Station, Australia's biggest cotton producer, as part of its efforts to restore the Condamine-Balonne river system. The volumes of water extracted and stored, and the way water is used will be considered. Further, the suitability of certain land uses and the need for industry incentives, readjustment, and restructuring will also be assessed. Any Queensland proposal is expected to provide end of valley flows for the Narran Lakes in Northern New South Wales, a wetland of international importance, a national park on the

³ The Ramsar wetlands are those listed under the 1971 Convention on Wetlands as wetlands of international importance.

Queensland-New South Wales border and other areas of national importance. The Queensland Government is seeking the Commonwealth to provide more than \$100 million towards the Cubbie Station project.

A question the Council has raised during this assessment is what Queensland would do in the event the Commonwealth did not provide any assistance. Queensland has advised that in that event it would need to reconsider its approach to the issue. Any new WRP for the Condamine–Balonne Basin will incorporate overland flows, but will not cover groundwater. This is due to a lack of connectivity between groundwater and other sources including stream and overland flows in the region. Any new plan will also need to comply with the Water Act.

The Council also notes that the Murray–Darling Basin Commission (MDBC) Independent Audit Group will be consulted on the final draft of the WRP as the finalisation of the Condamine–Balonne WRP has implications for setting Queensland's MDBC cap. Queensland had already placed a moratorium on withdrawals from the MDBC water systems and therefore it has effectively imposed an interim cap. The finalisation of the Condamine–Balonne WRP will refine this cap. The Condamine–Balonne accounts for the bulk of Queensland's portion of the Murray–Darling Basin, although the cap will also need to be integrated with the Border Rivers and the Warrego-Paroo WRPs. It is hoped that the planning processes on all of these river systems will be completed at about the same time.

In conducting this assessment, the Council has needed to be confident that this issue is being addressed. The Condamine–Balonne Basin is, of course, a Queensland river system and it is Queensland's obligation to address its stressed condition. Given a proposal to address this issue is presently being considered by a number of governments, the Council has considered, on balance, that there are grounds for delaying judgement until information is available. The Council has therefore decided to conduct a supplementary NCP assessment on the Condamine–Balonne WRP in February 2003.

In making this recommendation, the Council notes that evidence only emerged in the 2001 NCP assessment of the Basin's stressed condition. Further, the Council has recognised the efforts the Queensland Government is making to address this issue. Nevertheless, the Basin is stressed and should insufficient progress be made by the time of the February 2003 NCP supplementary assessment, the Council would consider payment implications with a view to imposing a penalty in the 2003 NCP assessment.

Burnett Basin WRP

Outstanding issue: The *Water Infrastructure Development (Burnett Basin) Amendment Act (December 2001)* modified the environmental flow objectives contained in the Burnett WRP, which the Council assessed in June 2001 as having complied with NCP commitments. The Council needs to re-examine the modified Burnett WRP to be satisfied that the new environmental objectives are still in accordance with the provision for environment commitments under CoAG water reform.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b–f)

Background

In 2001, the Council examined the Burnett Basin WRP and found that it met CoAG commitments. In December 2001, the Queensland Government passed the *Water Infrastructure Development (Burnett Basin) Amendment Act 2001*, which amended a number of the environment objectives in the Burnett WRP that the Council assessed in June 2001. The Council needs to re-examine the modified Burnett WRP to be satisfied that the new environmental objectives still comply with the CoAG commitments.

Queensland arrangements

The Water Infrastructure Development (Burnett Basin) Amendment Act amended the Burnett WRP on the basis of an impact assessment process, which included addressing public consultation requirements specified in relevant Commonwealth and State legislation. The scientific and other analysis undertaken during this process built on earlier WRP analysis, but was considerably more intensive, focused and comprehensive. The specific methods and results are detailed below and are publicly available in the environmental impact statements.

Following completion of the Queensland impact assessment processes for the Burnett River Dam and the Eidsvold, Jones and Barlil weirs, the Commonwealth Minister for the Environment and Heritage granted approval for Queensland to continue with dam and weir developments in accordance with the requirements of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The assessment report for the Walla Weir environmental impact statement has been deferred to enable the Government to consider integrated management arrangements for the Burnett River catchment, as recommended by the Coordinator-General. This assessment process followed all statutory requirements and, most importantly, provided opportunities for public input.

The environmental impact statements demonstrate significant potential for economic development which arises from the water made available through

these projects, providing the Burnett region with the best opportunity for economic development in many years. They indicate that 7500 new jobs associated with increased agricultural production will be created in the Burnett region. With any projects of this size, however, there will be adverse impacts. The environmental impact statements clearly outline these impacts and identify mitigating strategies that must be employed, given the requirements of the Coordinator-General's report.⁴

The Water Infrastructure Development (Burnett Basin) Amendment Act provides for some technical amendments to the Burnett Basin WRP. They arise from detailed modelling of the hydrological impact of the structures being assessed. These technical changes are necessary, but do not significantly alter the outcomes and the objectives of the WRP.

The environmental impact assessment reports identified the magnitude of adjustments to the WRP to enable the Burnett River Dam to proceed. The impact assessment process provided the opportunity for interested people and groups to express their views on the projects, including the need to amend the WRP. The Queensland Parliament and Commonwealth Government accepted that the extensive consultation arrangements for preparing the WRP and environmental impact statements had canvassed the full range of opinion on water infrastructure development in the Burnett. It was unnecessary, therefore, to amend the WRP through the processes contained in the Water Act.

The WRP includes water allocation security objectives, which specify the probability of being able to obtain water in accordance with a water allocation, whether the allocation is for urban water supply or agricultural or industrial use. The modelling for the impact assessment was undertaken on the basis that all regulated water allocation security objectives in the WRP were to be met. Accordingly, the environmental impact statement proposed no change to any of these water allocation security objectives. The Coordinator-General's evaluation establishes a requirement for negotiations with existing water harvesting licence holders that may be affected by the construction of the dam, to ensure the provision of water supplies equivalent to those provided under current licences or suitable compensation. The WRP also includes environmental flow objectives that provide for the protection of the health of natural ecosystems for the achievement of ecological outcomes.

The WRP contains two categories of environmental flow objectives. It requires that the low flow objectives be met if possible. The optimisation of these objectives is a principal focus of the next stage of water planning: the preparation of the ROP, which is under development by the Department of Natural Resource and Mines in accordance with the Water Act.

⁴ The Coordinator-General is a corporation established under the *State Development and Public Works Act 1971*. The corporation has responsibility for ensuring the environmental impact statements are conducted in accordance with the requirements of this Act.

The second category of environmental flow objectives are medium to high flow objectives which must be met to comply with the WRP. The modelling undertaken for the environmental impact statement details the flow regime that results from the water allocation scenarios related to the proposed infrastructure.

In preparing the environmental impact statements⁵, significant effort was directed to developing infrastructure operation strategies that enable the environmental flow objectives to be met. A comparison of the draft impact assessment reports and the final supplementary reports shows that the adopted strategy enables a high degree of compliance with the original objectives. The analysis undertaken shows that when the proposed allocations associated with all five proposed water storage structures are included, full compliance with the high and medium flow objectives occurs at 16 of the 19 nodes.

At two of the remaining three nodes (nodes 2 and 3), only one of the six objectives specified for each node does not comply, and the degree of noncompliance is very small. At node 3, near Gayndah, for example, the achieved 1.5-year average recurrence interval for the daily flow is 71 per cent of the pre-development flow compared with the original WRP requirement of 74 per cent. In physical terms, this means that the flow rate achieved every 18 months, on average, is 13 907 megalitres per day compared with the original WRP requirement of 14 582 megalitres per day — a difference of 675 megalitres per day. This objective is one of a number that relate to channel geometry and sediment movement. It is not unreasonable to conclude that the impact of this small change on channel geometry and sediment movement is insignificant.

At node 1, four of the seven objectives specified are not met. Again, three of these are within a few per cent of the original WRP requirement. The remaining statistic, the 1.5-year average recurrence interval, is modelled at 52 per cent compared with the required 69 per cent. This means that the required flow is achieved every 1.65 years (19.8 months) instead of every 1.5 years (18 months) as specified. The ROP will refine infrastructure operation strategies to better align the achieved flow regime with the current targets.

In addition to the amendment of some of the flow objectives, the objective in section 11(2) of the original WRP (to maintain lungfish habitat in the river) has been amended. The impacts on lungfish habitat of the water infrastructure development are described in the environmental impact statements as the loss of some habitat, particularly in the lake behind the dam. The mitigation strategies to be addressed in the conditions of approval must maintain the viability of the lungfish population through a range of

⁵ The State managed environmental impact statement process has been accredited by the Commonwealth under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999*.

actions in addition to managing and allocating water in the Gayndah section of the river.

In February 2002, Queensland publicly notified an intention to prepare a draft ROP for the Burnett Basin. Interested parties have until 26 July 2002 to make submissions on what should be included in the ROP. At this stage, a draft ROP for the Burnett is scheduled for release in December 2002 for consultation with a view to finalisation by April 2003. The ROP will define the rules that guide the management of streamflows and water infrastructure to achieve the WRP's objectives.

The Council has been provided with a copy of a draft action plan for the management of catchment-wide issues associated with new water infrastructure on the Burnett River. The plan is based on a whole of Government approach and addresses turtle and lungfish management and other catchment-wide issues.

Submissions

Submissions concerning the Burnett Basin WRP have been received from Burnett Water (2002, submission 3), Burnett Water for All (2002, submission 11) and Felicity Coffey of the Queensland University of Technology (2002, submission 6). Those aspects of the submissions that focus on the proposed Paradise Dam are listed in the section on progress on new rural schemes.

Burnett Water (submission 3) has made representations in relation to the modified WRP. The proponent established by Queensland to obtain all approvals for new water development projects in the region, Burnett Water has provided the following views to support the water allocation scenarios.

- The new WRP settings were developed with significant technical support to Burnett Water from the Department of Natural Resource and Mines through IQQM modelling.⁶
- Analysis showed that development of all three proposed water infrastructure projects would comply fully with high and medium flow objectives of the WRP at 16 of the 19 measurement nodes in the catchment.
- At two of the remaining three nodes, only one of the six objectives specified for each node would not comply and the degree of noncompliance was too small to be of practical significance.

⁶ The integrated quantity and quality modelling (IQQM) approach is used by the Murray–Darling Basin Commission, the New South Wales Government, the Mekong River Basin Commission and the global water engineering corporation, Lyonnaise Des Eaux Astran.

-
- At the remaining node, four of the seven objectives specified would not have been met. Three of these, however, were within a few percentage points of the WRP requirement. The 1.5 year average recurrence interval daily volume flow is modelled at 52 per cent compared to the required 69 per cent. This means the required flow would be achieved every 19.8 months instead of every 18 months as specified in the WRP.
 - The Queensland Co-ordinator-General concluded that ‘the flow outcomes represent practical compliance with the intentions behind the flow objectives of the WRP, and that Government consideration of an appropriate amendment to the WRP is justified’.
 - Minor amendments to the WRP were made in the Water Infrastructure Development (Burnett Basin) Amendment Act in December 2001.
 - In proposing the Act, the Minister for State Development noted that significant effort during preparation of the environmental impact statement was directed to developing infrastructure operation strategies to enable environmental flow objectives to be met, and that the strategy adopted enabled a high degree of compliance.
 - The amendments resulted in minor changes to a small number of flow figures in the Burnett WRP. The Co-ordinator-General concluded that these changes do not threaten the integrity of the WRP or its effectiveness as a tool for managing water resources in the Burnett.
 - The next stage of the new Burnett WRP under the Water Act is the preparation of the ROP. Completion of the ROP is a precondition for any final commitment to the Burnett River Dam and relevant weirs. Once the ROP is done, all efforts will be made to refine infrastructure operation strategies to improve the environmental flow targets in the WRP.

Burnett Water for All (submission 11) raised issues that primarily focus on the proposed dam, but also the following issues concerning the modified WRP.

- Scientific studies, including the 2000 draft water allocation and management plan for the Burnett Basin show the river is almost fully allocated. To ‘fit in’ the Paradise Dam, the level of extraction from the Burnett River will change from 19 per cent to 28 per cent of the mean annual flow. Scientific studies for the draft Burnett plan suggested the mean annual flow could be reduced to 81 per cent before major to very major ecological impacts occurs.
- The risk assessment diagrams produced by the Technical Advisory Panel for the 2000 draft Burnett plan show increased levels of water allocation in the Burnett Basin are likely to further change the flow regime and increase the likelihood of major impacts on riverine health and ecological condition.
- In the longer term, the impacts arising from existing levels of development can be expected to be greater than those already apparent.

- The WRP was amended solely on the modelling done by Burnett Water for the Paradise Dam environmental impact statement. The modelling was done without input from the Department of Natural Resources and Mines, which has expertise with the Burnett IQQM model.⁷
- The 2000 draft Burnett plan's recommendations are based on hydrological modelling which exclude data from the last four very dry years. Inclusion of these recent figures would exacerbate the breach of environmental flow limits.
- The State of the Rivers study for the Burnett reported that the Burnett River was generally in a poor state of health.
- The Burnett WRP should not have been altered for the following reasons.
 - The Burnett WRP was only signed off 12 months ago and therefore is not out of date. It was not scheduled to be reviewed until 2010.
 - The environmental flow limit in the modified Burnett WRP of 130 000 megalitres (or 75 per cent of natural flow) allows for more than double the level of extraction recommended by the draft water allocation and management plan (or 81 per cent of natural flow). The Paradise Dam infrastructure package would extract 196 000 megalitres.
 - The limits recommended in the draft water allocation and management plan were set at the point above which the best science available predicts that major to very major ecological impacts will occur.
 - Changing the figures will not change the fact that these major impacts are likely to occur with the level of extraction proposed by the dam.
- Some of the impacts that will occur by extracting water beyond the environmental flow limits are:
 - a worsening of salinity;
 - increased aquatic weeds and algal blooms;
 - a reduction of fish habitat and breeding triggers, reducing catches; and
 - an increase in nutrients flowing to the Great Barrier Reef during flood events.

⁷ The Department of Natural Resources and Mines set the provisions of a licence to the proponent's consultants to use the IQQM model. The department provided advice and support to the consultants through the modelling process and at the conclusion of the process, the department audited and approved the modelling work.

-
- **Modifying the Burnett WRP removed the Government's need to 'maintain' lungfish spawning habitat in the upstream reservoir.**
 - **Based on substantial mainstream evidence, the change to legislation to override the WRP is not sustainable and therefore will seriously threaten the long-term viability of the Burnett Region.**
 - **Environmental flow objectives will not be met, resulting in insufficient water flows to allow fish spawning and prawn breeding in the tidal reaches of the Burnett River system, severe economic loss to commercial and recreational fisheries, and possibly the loss of some fish species.**
 - **Recommendations from the Burnett WAMP and research investigations have been ignored.**
 - **The Burnett River should be deemed to be a stressed river system.**
 - **By not meeting the environmental flow limits recommended in the draft water allocation and management plan, the Government is ignoring the precautionary approach.**
 - **The Burnett River system is gifted with two rare inhabitants, one of which (the lungfish) is native to the Burnett and Mary rivers of southeast Queensland. The other is a recently discovered and as yet unnamed freshwater turtle in the genus *Elseya*.**
 - **The turtle is so new that it has not yet been classified, so cannot be protected under the Commonwealth's Environment Protection and Biodiversity Conservation Act. According to experts, the turtle is likely to be listed as a 'vulnerable' species. If the dam goes ahead, then the species could be listed as 'endangered'.**
 - **Environment Australia is reviewing the Queensland lungfish for classification under the Environment Protection and Biodiversity Conservation Act. The outcome of the decision-making process with regard to the dam should be delayed until there is Commonwealth approval of the listing of the species. Approval of the lungfish as a listed species would require an assessment of the breaches of the environmental flows that have been made. These breaches have not been officially considered at the Commonwealth level because there is a loophole in the Environment Protection and Biodiversity Conservation Act.**
 - **An internationally recognised species, lungfish are known to occur naturally in only the Burnett and Mary rivers, although many years ago some were translocated to the Brisbane River system where the species is still surviving. It cannot, however, spawn successfully in dams and weirs. While the species is generally regarded as abundant within the community (even in impoundment areas) and long lived (up to 60 years of age), the impacts on the species may not be visible for decades. By the time changes in number are noticed, it may be too late.**
-

- An ecological outcome of the WRP has been modified to no longer require spawning sites of lungfish to be ‘maintained’ as a result of a weakening of several environmental flow(s) requirements. No public consultation on these changes was undertaken before the WRP amendment was passed.

Felicity Coffey (2002, submission 6) also argues that the amended Burnett WRP does not comply with CoAG commitments. The amendment Act changed the following provisions in the Burnett WRP for lungfish habitat.

- Section 11(2) was changed from ‘water in the Burnett River is to be managed and allocated to maintain lungfish habitat in the river, particularly lungfish habitat downstream on Gayndah’ to ‘managed and allocated to provide for lungfish habitat’. This wording is weaker than the original provision.
- Three out of the five key flow indicator values for the environmental flow objectives at node 1 were amended and resulted in these objectives being given values beyond the environmental flow limits in the draft Burnett WRP.
 - This is contrary to the Water Act, s. 10(1) objective ‘to advance sustainable management and efficient use of water’ and s. 38(1) requirement to prepare a WRP to advance sustainable water management.
 - The amended environmental flow objectives have not been set at levels considered, at present knowledge, to be sustainable (see nodes 1,2 and 3). Rather, the amended environmental flow objectives have been set beyond the limit of flow regime change to allow water infrastructure to be built.
- The amendments of the environmental flow objectives have reduced transparency of the objectives. Further, the amendments to the Burnett WRP are not obvious to the public.
- The Burnett WRP set environmental flow limits at 2 per cent above level 2 (the level below which major or very major impacts are more likely to occur). There is a question of whether the Government incorporated the precautionary principle into its decision-making to assign the environmental flow objectives.
- Node 6 should be considered to be stressed because the Burnett WRP does not provide for a reduction in water use levels in this reach.
- The Water Act defines an environmental flow objective as ‘a flow objective for the protection of the health of natural ecosystems for the achievement of ecological outcomes’.

Discussion and assessment

The Queensland Government has argued that the amendments to the Water Infrastructure Development (Burnett Basin) Act resulted in small changes to a handful of objectives in the original Burnett Basin WRP of 2000 and that those changes have not, in any way, threatened the integrity of the WRP or its effectiveness as a tool for managing the water resources of the Burnett Basin.

The Council has examined the modified Burnett WRP. While the modifications have not altered the stated general outcomes, the modifications enable an additional 66 000 megalitres per year to be allocated for consumptive use, resulting in an alteration to the plan's ecological outcomes for the lungfish habitat. The initial WRP required water in the Burnett River to be managed and allocated to *maintain* habitat; the modified WRP states that water in the Burnett River is to be managed and allocated to *provide for* lungfish habitat.

The Government has indicated it is considering measures to address the long-term viability of populations of lungfish and freshwater turtles in the Burnett River. Development of management and action plans is likely and will also involve further research to better understand the habitat requirements of the fauna.

The Council notes that the Commonwealth is considering listing the lungfish under the Environment Protection and Biodiversity Conservation Act. Such a proposed action indicates national concern over the future long-term survival of this species.

Of the 19 management nodes contained in the original WRP, only three have been modified by the change to the WRP. All three nodes, however, are from immediately upstream of the proposed Paradise Dam site down to the river mouth (node 1). At node 1, this translates to a shift from the draft WRP 'scenario y' to 'scenario z'.

The Technical Advisory Panel made the following comment concerning impacts on the estuary:

The Burnett estuary has already undergone very major change from its natural condition, due to existing water resource development and numerous other disturbances, including channel modifications ... reclamation of mangrove areas, pollutant inputs and fishing pressures. The additional development represented by scenarios x, y and z is likely to lead to further change, although this cannot be shown by a change in rating. (TAP 2000, p. 10)

In addition the Technical Advisory Panel indicated their views on geomorphological and ecological impacts likely from the implementation of the draft WRP scenarios at the Burnett River at Figtree (node 2):

Scenarios x, y and z all involve substantial additional development. Impacts up to a moderate level are likely. Scenario z is likely to lead to impacts up to a major level, increasing to very major if a large dam is constructed on the Burnett River between Gayndah and Figtree. (Burnett Basin Technical Advisory Panel 2000, p.9)

It is the Council's view that the revised WRP incorporates a minor level of change in the medium and high flow objectives. In a number of instances, however, values for the flow objectives have moved further away from those presented as the environmental flow limits and this is a potential concern. The environmental flow limit represents a point at which the risk of environmental degradation associated with a change in a flow objective becomes unacceptable. The CRC for Freshwater Ecology in relation to the original Burnett WRP indicated that the environmental flow limit line represents an unacceptable risk of relatively minor impact when compared to levels of impact in many rivers in south-eastern Australia.

While the Burnett River system has some reaches of high ecological value, it has already been highly modified as a consequence of existing water resource developments. Further, as indicated by the Technical Advisory Panel the river reaches of the lower Burnett River are not in a pristine or relatively undisturbed state.

The Council does not support the view that the modification of the WRP means the Burnett is now a stressed system. It is not obvious to the Council that the changes to the environmental flow objectives in the modified WRP will necessarily result in a further deterioration of ecological condition at the management nodes where departures from the environmental flow limit are greatest. All environmental flow objectives are being met at all nodes as demonstrated by the environmental impact study. The Council considers that how the allocations are managed, along with how infrastructure (including any new infrastructure) is operated under the Burnett ROP, may be a greater determinant of future environmental health.

Given that the amended WRP has resulted in only minor changes from the outcomes contained in the original WRP, the Council re-affirms its finding from the 2001 NCP assessment that the Burnett Basin WRP complies with CoAG commitments. To be certain, however, the Council will review the provisions of the forthcoming Burnett Basin ROP, consistent with the Council's findings in 2001 in relation to the Burnett WRP:

The Council may consider the implementation actions proposed in the resource operations plan to ensure sustainability in future assessments (NCC 2001c, p.102).

The Burnett ROP will need to show in a transparent manner how it will achieve the general and ecological outcomes stated in the WRP to ensure that ecologically sustainable outcomes will be realised.

Compliance with principle 4

Outstanding issue: Queensland is to demonstrate progress and compliance of WRPs and ROPs with principle 4 of the national principles for the provision of water for ecosystems.

Principle 4 states that 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 while recognising the existing rights of other water users.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b–f)

Background

In relation to principle 4, the 2001 NCP assessment found ROPs are to implement the WRPs. No ROPs were advanced enough for examination at that time, so the Council deferred examination of compliance with this principle until the 2002 NCP assessment when the Fitzroy Basin ROP was expected to be in place.

Queensland arrangements

Queensland has advised that work is progressing to release a draft ROP in August 2002. The process to prepare a draft ROP for the Fitzroy Basin formally commenced in November 2000 with the issue of a s. 96 public notice under the Water Act. Some 40 submissions on the proposal are being considered, along with the necessary technical assessments in preparing a draft ROP. It will be released for three months public consultation (an extended period due to this being the first ever ROP).

Queensland is proposing to appoint an independent ROP referral panel of 5–7 experts (akin to the referral panels used for moratorium matters). The panel will coordinate submissions and make recommendations to the chief executive of the Department of Natural Resources and Mines.

The Fitzroy ROP will cover the entire area of the Fitzroy WRP but will be rolled out in stages. An initial ROP will be released and then the Queensland Government will amend the ROP to add parts over time. The initial area to be covered as a first priority is the Nogoia–MacKenzie, Upper Fitzroy and the Dawson water supply schemes. The first stage will cover 70 per cent of all licences in the Fitzroy, including 95 per cent of all supplemented licences.

The draft Fitzroy Basin ROP will contain the detailed elements required to implement the WRP as follows:

- details of amendments to be made to certain individual water entitlements to convert them to approximately 840 tradeable water allocations;
- water allocation change rules to provide for the movement of water allocations between different areas and for different purposes;
- licensing water service providers such as SunWater and Fitzroy River Water Ltd;
- rules for the amendment of certain entitlements not being converted to water allocations, including the specification of an annual volumetric limit;
- operating rules to apply in both supplemented and unsupplemented areas to meet environmental flow and water allocation security objectives;
- water and natural ecosystem monitoring practices to be implemented in both water supply scheme areas and unsupplemented areas. Monitoring will be done on a whole of basin streamflow basis, individual reaches, and monitoring required by individual licence holders. An extensive two year pilot monitoring program will be used to establish a long term ecological monitoring program;
- reporting requirements to apply to infrastructure operators of water supply schemes; and
- strategies for the release and/or reservation of unallocated water.
 - The 190 000 megalitres contained in the WRP for the Nathan Dam on the Dawson River will not be included in the ROP.
 - The additional 40 000 megalitres of unallocated water for the Nogoa–Mackenzie rivers has been subject to intensive overland flow take and this also will not be covered by the ROP.
 - The draft ROP proposes to release 15 000 megalitres per year in water allocations along the Lower Mackenzie and Fitzroy Rivers and 11 000 megalitres per year in water licences in the Isaac, Connors, Lower Mackenzie and Fitzroy river subcatchments to meet immediate needs for the next three to five years.
- The ROP will provide for modifications of the outlet works the Fairbairn Dam to meet post-winter flow environmental objectives. Sunwater will be given time to implement these objectives.

The ROP will formally separate water allocations from land title. Water allocations will have a specified purpose of either 'agriculture' or 'any'.

Subject to consideration of submissions on the draft ROP and any further assessments that may be necessary, the ROP process is expected to be finalised in early 2003.

To preserve the Fitzroy Basin WRP environmental flow and water allocation security objectives, on 13 September 2001 the Minister for Natural Resources and Mines publicly notified⁸ his intention to amend the WRP to regulate the taking of, and interfering with, overland flow water. A comprehensive moratorium on further overland flow developments was also announced at this time. The process to prepare an amended WRP is specified in the Water Act and is underway, with extensive catchment-wide data collection on overland flow developments in progress. A community reference panel is being formed and a technical advisory panel is soon to be engaged.

In addition, the development of the Fitzroy ROP has highlighted the need for modifications to the Fitzroy WRP. The necessary modifications to the Fitzroy WRP will be contained in chapter one of the ROP. The ROP will also contain caveats outlining possible areas for amendment over time such as those arising from monitoring to ensure a full process is not required to amend the ROP. The modification of the WRP could be done either by the WRP amendment process under the Water Act or by a specific amendment to the Water Act itself to accommodate the Fitzroy situation. Queensland needs to amend the Fitzroy WRP to give effect to the operational arrangements contained in the ROP and it is proposed that this be done as a parallel process to the development of the ROP.

Discussion and assessment

The Council will re-examine future ROPs for the Fitzroy Basin, and possibly the Burnett Basin against principle 4 in the 2003 NCP assessment.

Compliance with principle 5

Outstanding issue: Queensland is to demonstrate compliance and further developments of WRPs with principle 5 of the national principles for the provision of water for ecosystems.

Principle 5 states that where environmental water requirements cannot be met due to existing uses, action (including re-allocation) should be taken to meet environmental needs.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

⁸ Under ss 40 and 55 of the Water Act.

Background

The 2001 NCP assessment concluded that the Council would look to Queensland's response on the development of a new Condamine–Balonne WRP to assess whether the State has met the criteria of principle 5. Queensland committed to treat this issue as a priority, so the Council undertook to review the WRP against principle 5 in the 2002 NCP assessment.

Queensland arrangements

Queensland has advised that environmental flow objectives for the Condamine–Balonne WRP are being developed with consideration of:

- expert scientific opinion (by technical advisory panels);
- results of the Department of Natural Resources and Mines' ongoing ambient water quality and biological monitoring programs; and
- the department's recent aquatic ecosystem research work in the Condamine–Balonne (looking at eco-response to flow change).

Assessment

The new WRP will contain the new environmental flow objectives. The Council will assess developments and compliance with principle 5 in the February 2003 NCP supplementary assessment in relation to the new Condamine–Balonne WRP (and possible ROP).

Compliance with principle 8

Outstanding issue: Queensland is to demonstrate compliance and further development of WRPs with regard to principle 8 of the national principles for the provision of water for ecosystems.

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

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b–f)

Background

The 2001 NCP assessment found that Queensland was undertaking scientific assessments to determine future monitoring programs to ensure the data

collected measure the performance of WRPs. A pilot program was being applied in the Condamine–Balonne Basin and, if successful, will be applied to other systems in the State.

The Council will consider the application of principle 8 as further developments occur in the 2002 NCP assessment.

Queensland arrangements

Queensland has advised that the Department of Natural Resources and Mines is undertaking significant investment to research and better understand flow and land use impacts on aquatic ecosystems, to identify aquatic system health indicators that respond to flow changes and landscape disturbance. The work initially focused on flow changes but quickly recognised the confounding factors caused by landscape changes. The results of the research are expected to provide a comprehensive monitoring framework and then, when plans are reviewed, a better definition of ecological outcomes in WRPs and improved indicators for plan performance monitoring. Research is being undertaken in the Condamine–Balonne and Fitzroy basins.

Assessment

The Council will re-assess the new Condamine–Balonne Basin WRP and the Fitzroy Basin ROP against principle 8 in the 2003 NCP assessment. The Council may also examine other WRPs and ROPs, monitoring reports and any other relevant documents at that time with regard to this principle.

Other stressed WRPs

Outstanding issue: The Council needs to examine any other final WRP where the area covered is considered to be stressed or overallocated (for example, the Border Rivers).

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b–f)

Background

In 2001, the Council concluded that the process of setting environmental flows is an adaptive one and that the results from WRPs, ROPs and monitoring of ecological outcomes are yet to be seen. The ROPs implement the environmental flows in WRPs. Before a ROP is established, the WRP guides water management.

The 1999 Tripartite Meeting agreement requires progress by 2001 on allocations in all river systems that have been overallocated or are deemed to be stressed. In 2001, the Condamine–Balonne system was found to be a stressed basin system. The Council reserves the right to examine any other WRP for a waterway that may be overallocated or stressed.

Queensland arrangements

Queensland has advised that hydrologically it has no stressed catchment systems apart from the Condamine–Balonne Basin. In relation to the Border River, available science indicates an end-of-system flow of approximately 60 per cent, which is not considered to be stressed.

Discussion and assessment

Queensland has a moratorium on withdrawals from its portion of the Murray–Darling Basin system, which includes the Border Rivers. The finalisation of the Condamine–Balonne Basin WRP will define Queensland's adoption of the Murray–Darling Basin cap. The Condamine–Balonne Basin accounts for the bulk of the Murray–Darling Basin Commission water (sourced from Queensland).⁹ The cap will need to be refined for the Border Rivers and Warrego–Paroo WRPs.

The Condamine–Balonne Basin is the only area in Queensland where a WRP is being developed that is acknowledged as being, or at risk of becoming, stressed or overallocated. The outstanding commitment has been met.

⁹ Four rivers contribute to the Murray–Darling Basin Ministerial cap: the Condamine–Balonne rivers (600 gegalitres), Border Rivers (200 gegalitres), the Moonie River (10 gegalitres), and the Warrego–Paroo rivers(10 gegalitres).

Public consultation

Outstanding issue: The Council will monitor developments in public consultation on the WRP process.

Next full assessment: For all future assessments, the Council will examine public consultation and education measures for the reform priority that falls due for assessment in that year. The Council will re-examine the adequacy of consultation measures in the WRP process in 2004.

Reference: Water reform agreement, clause 7(a–e)

Background

In 2001, the Council found that Queensland continues to actively consult with all stakeholders in all aspects of the reforms and has ongoing consultation and education mechanisms. The Council was satisfied for the 2001 NCP assessment that Queensland had met its commitments in this area of reform.

The Council found, however, a need for greater transparency in the WRP process. In particular, the Queensland Government committed to bolster the s. 51 reports under the Water Act to provide more supporting information on what a final WRP will mean and how Queensland moves from the draft to the final. For the 2002 NCP assessment, the Council committed to monitor developments in public consultation on WRPs.

Queensland arrangements

Queensland has advised that the Department of Natural Resources and Mines is continuing to improve its community engagement processes for water resource planning. Examples are early planning discussions with the Mary River catchment committee on the most appropriate means of public consultation for the Mary River WRP. The information paper, to be released as part of the formal commencement of the WRP process, will seek comment on a proposed community engagement, involving a citizen's panel and also direct stakeholder engagement. Similarly, as part of the formal initiation of the WRP process for the Burdekin Basin, the Government is seeking community input and submissions on the process for community consultation in preparing this plan.

In November 2001, Queensland passed the *Water Amendment Act 2001*. Section 78A has been added to make 'minor' amendments to WRPs without having to go through a full public consultation process. The provision applies to amendments to correct minor errors or to make a change that does not change the substance of a WRP. The provision will also apply to amendments when a WRP specifies that such amendments can be made without full public consultation.

Queensland passed the Water Infrastructure Development (Burnett Basin) Amendment Act in December 2001 to amend the Burnett WRP and allow for the possible development of the Paradise Dam. This Act allowed Queensland to bypass the provisions in the Water Act that specify the public consultation process necessary to amend a WRP. Queensland passed the Act to amend the Burnett Basin WRP on two grounds:

- the environmental impact statement process has provided similar information to that required under the Water Act; and
- the changes to the plan will not fundamentally affect the environmental outcomes targeted in the existing Burnett WRP.

Submissions

Several submissions to the Council have addressed the process of public consultation during the development and implementation of amendments to the Burnett WRP. Burnett Water (submission 3) has raised the following points.

- The environmental impact statements for the projects found minor amendments to the Burnett WRP would be needed to allow the implementation of the projects.
- The Queensland Co-ordinator-General concluded that 'water resource matters associated with the proposed dam (and other proposed infrastructure) are considered to be adequately addressed in the draft environmental impact statement and supplementary report. The flow outcomes represent practical compliance with the intentions behind the flow objectives of the WRP, and that Government consideration of an appropriate amendment to the WRP is justified.'

A number of submissions have argued that it is inappropriate for the Government to enact special legislation in this way when a process for amendment (involving public consultation) already exists in legislation. Burnett Water for All (submission 11) has raised the following points about overriding legislation to change the Burnett WRP.

- There was no opportunity for those affected to have input. Many sectors of the community felt they were not adequately consulted, including the local indigenous group Wakka Wakka Jinda, landholders and the Inland Burnett community. The Queensland Government regards the consultation as part of the environmental impact statement as sufficient to change the WRP. Burnett Water for All, however, regards the entire environmental impact assessment for Paradise Dam as inadequate in both content and process.
- This is a clear vote of no confidence in the community consultation process for the water allocation and management plan that formed the basis of the

WRP, making a mockery of the WRP process which is hailed nationally as being a significant achievement in sustainable water management

- The public was not given sufficient warning before the environmental impact statement for the Burnett River Dam was released and were not informed that it was going to be used to amend the WRP for the Burnett Basin.
- Information other than what has been offered by Burnett Water has been difficult to find because all Government departments have been advised not to comment.
- The community were consulted at length on the water allocation and management plan, yet the Government has chosen to ignore the findings.

Felicity Coffey (submission 6) has submitted that:

- the Queensland Government ignored the Water Act provisions that set out a process for public consultations to amend (other than minor amendments) a WRP, thus restricting public consultation on the proposed amendments to the Burnett WRP; and
- Queensland Treasury documents on the financial viability of the Paradise Dam were withheld from the public under the Freedom of Information Act, which exempts matters considered by Cabinet or Executive Council. Additionally, the Queensland Government exempted the requirement for a regulatory impact statement to amend the Burnett WRP, thus avoiding public scrutiny.

Discussion and assessment

In relation to the issue of the modified Burnett WRP, the Council found in the 2001 NCP assessment that there was a need for greater transparency in the WRP process in general. The Queensland Government has enacted a number of pieces of legislation to amend the Water Act requirement for public consultation, for reasons of administrative expediency, but the Council considers that processes such as the amendment of the Burnett WRP do not help to instil public faith in the transparency of Queensland's WRP process.

While the Water Infrastructure Development (Burnett Basin) Amendment Act amendments to the original Burnett WRP were minor, they did vary specific environmental flow objectives, including one criterion that relates to the endangered lungfish and the loss of some of its habitat.

A number of submissions argue that it is inappropriate for the Government to enact special legislation in this way when a process for amendment (involving public consultation) already exists in legislation. The Council considers that actions such as the amendment of the Burnett WRP without formal consultative processes do not help the WRP process or specific issues such as the proposed development of the Paradise Dam issue.

The Council in 2001 raised with Queensland the need for greater transparency in the WRP process. In particular, s. 51 reports will now be augmented to explain what the final WRP will mean and how Queensland moves from the draft to the final, including any trade-offs made. Queensland has re-affirmed its commitment to this process in the 2002 NCP assessment.

The changes in the s. 51 reports can be achieved without amending the Act and the next s. 51 report (on the Condamine–Balonne) will include the additional information. The Council will reconsider this issue in the 2003 NCP supplementary assessment when it assesses the Condamine–Balonne WRP.

Progress report issues

Full cost recovery – externalities

Progress report: Developments in factoring externalities into pricing by urban service providers.

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Background and Queensland progress

The CoAG pricing guidelines require externalities to be incorporated into prices. The Council recognises that this is a complex and difficult area, particularly in the urban sector.

The Council views the first step as looking for prices to reflect an appropriate proportion of the costs of mitigating environmental problems of water use. The more advanced stage is a holistic approach to dealing with externalities, where pricing is only one component. As noted by the High Level Steering Group on Water (2000), externalities need to be addressed using a ‘portfolio of decision tools’.

Queensland indicated that the Business Management Assistance Process is not looking at externalities, and that there will need to be policy level consideration in the first instance. Externality charges (environmental costs for example) are factored into full cost pricing where imposed by a third party such as a state regulatory body (for example trade waste charges).

Full cost recovery – tax equivalent regime

Progress report: Report on developments to implement Tax Equivalent Regimes for metropolitan service providers.

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on tax equivalent regimes

Background and Queensland progress

Tax equivalent payments and other competitive neutrality adjustments (for example, debt guarantee fees) are provided for in full cost pricing for significant local government business activities (that is Type 1 and Type 2 business activities) under the *Local Government Finance Standard 1994*. For the remaining 107 local governments, the adoption of a full cost pricing regime is voluntary. However, the Government's Financial Incentive Plan provides potential financial payments to local governments as an incentive for progressing full cost pricing reforms. Taxes within the Queensland Tax Equivalent Regime include income tax, stamp duty, payroll tax, land tax and debits tax.

For local governments adopting full cost pricing or commercialisation of their business activities, the local government is entitled to receive any tax equivalent payments. Following amendments made by the Commonwealth to the *Income Tax Assessment Act 1936* in October 2001, all Queensland local government corporations and entities are no longer liable to pay income tax to the Commonwealth. Any income tax equivalent would now be payable to the parent local government rather than the Commonwealth. These amendments have significantly enhanced the viability of corporatisation of business activities for local governments.

Community service obligations and cross-subsidies

Progress report: The identification and transparent reporting of community service obligations and cross-subsidies among those local governments outside the Big 18.

Next full assessment: The Council will assess the reporting of community service obligations and cross-subsidies in 2003.

Reference: Water reform agreement, clause 3(a)(i & ii)

Queensland progress

The *Local Government Act 1993* requires the largest 18 local governments with significant water and sewerage business activities to identify and publicly report any cross-subsidies that exist between different classes of

customers and to identify and publicly report any community service obligations (CSOs). For the remaining 107 local governments the identification and reporting of CSOs and cross-subsidies is not required under legislation. However, the Financial Incentive Program provides a financial incentive for the local governments to undertake such an analysis.

At 1 July 2001, of the 11 local governments that have over 5000 water connections, but are outside of the largest 18 local governments, only three have identified CSOs and two have completed appropriate cross-subsidy reports that comply with the guidelines. Within the 41 local governments with between 1000 and 5000 water connections, eight have identified CSOs and are reporting them while three smaller local governments have conducted compliant cross-subsidy reports.

The Council has not been provided with any information on whether the number of local governments that are identifying and reporting CSOs and cross-subsidies has increased since July 2001. Hence, it is not yet evident how effective the Business Management Assistance Program has been in helping some of the smaller to medium sized water businesses complete these reports and investigations.

As noted in the progress report on structural separation, Queensland currently releases some information on local government water and wastewater businesses in *the Queensland Local Government Comparative Information Report*. This year's report is publicly available on the Department of Local Government's website. The Council has reviewed the information provided in that report to determine, among other things, whether it meets the CoAG water reform commitments for publicly reporting CSOs and cross-subsidies. The current report contains some information on pensioner rebates but it does not separate these rebates between water and other local government charges. In addition, the report does not provide information on other CSOs or cross-subsidies.

Queensland has committed to working closely with the Council prior to sending the next survey to local government to ensure that the information collected covers the areas necessary to meet the NCP reform commitments.

Consumption-based pricing – seven local governments

Progress report: Queensland is to report on progress on assessments of the cost effectiveness of introducing two-part tariffs for the seven local governments with between 1000 and 5000 connections that have not reviewed existing tariff arrangements.

Next full assessment: The Council will next assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

In 2001, the Council expressed a concern that seven local governments decided to remain under existing tariff arrangements without completing assessments of the cost effectiveness of introducing two-part tariffs. At that time the Council hoped the Business Management Assistance Program would lead to these assessments being completed, to allow an informed judgement of the potential value of moving to a two-part tariff. The Council's concern was heightened by the fact that these seven local governments have some of the State's largest free water allowances; for example, Longreach, Sarina and Belyando offer allowances of up to 1200 kilolitres, 2045 kilolitres and 6655 kilolitres respectively. Free water allowances, particularly of this magnitude, given that average residential consumption across the country is around 256 kilolitres (WSAA 2000), discourage economical water use.

Queensland progress

For 2002, Queensland have provided the Council with a status report on each of the seven local governments identified in 2001 that had not reviewed existing tariff arrangements.

- Broadsound Shire Council has resolved to implement a two-part tariff by 1 July 2002.
- Herberton conducted a two-part tariff assessment and forwarded the report to their Shire Council for consideration. The Department of Local Government and Planning has been advised that the report proposes the implementation of a two-part tariff for the 2002-03 financial year. The Queensland Government will provide the Council with details of Herberton Shire Council's budgetary deliberations as soon as they are known.
- Douglas Shire Council had delayed the preparation of a two-part tariff assessment until it had established the magnitude of costs for the installation of a new water treatment facility. Douglas Shire Council is in the process of engaging consultants to prepare an appropriate assessment. Queensland will provide the Council with more detail on developments for Douglas Shire as they come to light.
- Belyando Shire Council has conducted a two-part tariff assessment. The assessment found that the introduction of a two-part tariff would be cost effective. However, the Shire Council has resolved not to implement a two-part tariff.
- Sarina Shire Council has conducted a two-part tariff assessment that found the implementation of a two-part tariff would be cost effective. The Shire Council has resolved to implement a two-part tariff and is developing options for the pricing structure for consideration during the 2002-03 budgetary process.

- **Roma Town Council met with Business Management Assistance Program (BMAP) consultants in mid February 2002 and has developed a comprehensive implementation plan to complete all necessary reforms by July 2003. Roma resolved to nominate its CoAG Water Business for reform, and is planning to conduct a two-part tariff report.**
- **Longreach Shire Council has commenced its two-part tariff assessment.**

All the shire councils above have been involved in BMAP audits, workshops and briefings. In 2003 the Council will consider in full the implementation of two-part tariffs by local government water services providers.

New rural schemes

Progress report: Governments have agreed that all investments in new rural water schemes or extensions to existing schemes should be undertaken only after appraisal indicates that the scheme or extension is economically viable and ecologically sustainable.

Queensland is to provide a progress report on the status of new dam projects such as the Paradise Dam proposed for the Burnett Basin.

Next full assessment: The Council will examine investments made by the government when the government decides to proceed, to ensure the twin tests of economic viability and ecological sustainability have been met.

Reference: Water reform agreement, clause 3(d)(iii).

Background

The Council was satisfied that Queensland had met its 2001 NCP commitments in relation to new investment. Further, in that NCP assessment, the Council reviewed Queensland's guidelines for establishing economic viability and ecological sustainability.

In 2001, the Queensland Government announced an intention to proceed with the design of the Paradise Dam project in the Burnett Basin region. Queensland released a State infrastructure plan, including a strategic directions paper setting out infrastructure planning until 2006.

- **All development proposals to establish economic viability must comply with the Queensland Treasury guidelines for new water infrastructure in Queensland.**
- **The 2001-02 plan provided some \$3.9 million to undertake planning and impact assessment investigations in the Burnett region. The Paradise Dam, Walla Weir 2, Barlil Weir, Eidsvold Weir and upgraded Jones Weir projects were identified as possible development projects.**

The Council has confirmed that the development of the Burnett ROP is a condition for a final decision to proceed with the Paradise Dam. Public consultation on what may be included in developing a draft Burnett ROP was

extended until 26 July 2002. The Department of Natural Resources and Mines intends to put out a draft Burnett ROP for public comment in December 2002, with the aim of releasing a final ROP in March-April 2003.

The process of assessing new infrastructure development can occur in parallel with the ROP. It may not be necessary to wait for the finalisation of the ROP for a developer to commit to a new dam, but the developer will not receive a firm water allocation until the ROP is finalised.

In terms of the process for the Paradise Dam, Queensland is in stage 2 of a four-stage process. Stage 1 (complete) was the development of the environmental impact statement — the pre-feasibility stage. Stage 2 (the pre-development stage) has just commenced and is expected to take 18 months. This stage will address the development of the ROP, native title and so on. A final decision to commit to the construction of the Paradise Dam is unlikely to occur before mid-2003.

Submissions to the Council for the 2002 NCP assessment have expressed concern with the proposed dam development. (These issues are listed below.) The Council will assess these issues in a future NCP assessment if the Queensland Government decides to proceed to construction of the Paradise Dam.

Queensland progress

In accordance with the Water Infrastructure Development (Burnett Basin) Act, the Queensland Government has established a State-owned company to achieve the 'Water for Bundaberg' component of a 2001 State election commitment. The company, Burnett Water, has been undertaking impact assessment work and is planning to apply for necessary approvals for the construction and operation of new water infrastructure in the Burnett region.

The development proposals include:

- a major dam on the Burnett River (with a capacity of up to 300 gegalitres) to support agriculture and industrial expansion in the lower Burnett region;
- new weirs at Eidsvold on the Burnett River and at Barlil on Barambah Creek; and
- raising of the Jones Weir at Mundubbera and the Walla Weir.

Draft environmental impact statements were publicly released in early September 2001 for the Burnett River Dam, Walla Weir and Eidsvold Weir projects. The comment period closed on 4 October 2001.

After completing a thorough assessment of all relevant material, including over 200 public submissions, the Coordinator-General, as the relevant State

Government authority, recommended on 31 October 2001 that the Burnett River Dam and Eidsvold Weir projects proceed.

The Coordinator-General considered the beneficial and detrimental effects of the projects, as required by the *State Development and Public Works Organisation Act 1971*, and decided that the environmental impact assessments adequately assessed these effects. The Coordinator-General further determined that the adoption of a series of recommended mitigation measures could adequately address the detrimental impacts. These measures are detailed in the Coordinator-General's report, which can be accessed at www.sd.qld.gov.au.

As at 4 February 2002, Burnett Water had received Commonwealth approvals under the Environment Protection and Biodiversity Conservation Act for Eidsvold Weir, the Barlil Weir, the Jones Weir and the Burnett River Dam. In relation to the Burnett River Dam, the Commonwealth gave its approval subject to the following two conditions:

- Burnett Water must secure compensatory habitat for the black-breasted button quail at Mount Blandy; and
- Burnett Water must develop a plan to manage the impacts of the dam on migratory species in the river estuary. This plan is to include surveys and monitoring, and measures to be actioned if the surveys and/or monitoring demonstrate an adverse impact.

Commonwealth approval for Walla Weir has not been sought because the Coordinator-General required further information before finalising his evaluation. This information primarily relates to the impacts on the *Elseya sp.* freshwater turtle.

The environmental impact statement identifies the statutory approvals required under Queensland legislation. Burnett Water will be able to apply for those approvals as soon as it receives all of the Commonwealth approvals. The principal approvals relate to the granting of water allocations under the Water Act and the change of land use provisions within the *Integrated Planning Act 1997*.

Completion of an impact assessment process does not automatically lead to a decision to invest in the project. This decision will occur when the potential investors (public or private sector) have established that they will receive appropriate rates of return will be achieved on their investment. The Queensland Government will engage a specialist consultancy firm during February 2002 to prepare a business case for the possible delivery of the projects under a public-private sector partnership model. Queensland Government policy requires such work to be undertaken for infrastructure projects with a capital value of over \$30 million.

Economic viability

The Network Economics Consulting Group has undertaken an economic analysis of the proposed water infrastructure projects. The consultancy report is included in the environmental impact statement documents produced by Burnett Water, which can be accessed at www.burnettwater.com.au.

In addition to a comprehensive discussion about the regional economic benefits to be generated by the Burnett water infrastructure development projects, the consultancy report details a cost–benefit analysis. The projects achieve strong positive economic outcomes for the wide range of assumptions tested.

The Network Economics Consulting Group's approach is considered to represent best practice for a number of reasons, including:

- the principles of the method used are essentially the same as those used for most major economic impact assessments in the past;
- the extent and depth of the analysis provided has been much more comprehensive than is usual in major project environmental impact assessments;
- the credibility and experience of the relevant economic analysts is highly regarded;
- the application of some alternative methods would be highly likely to involve considerably greater costs but could not guarantee more accurate or credible estimates; and
- the limitations and strengths of the consultancy's approach are well understood and presented.

The updated consultancy report (dated October 2001) and the supplementary report to the Burnett River Dam environmental impact statement address issues relating to available markets for the expanded agricultural production resulting from the water infrastructure projects.

Ecological sustainability

The WRPs protect the ecological sustainability of river systems in Queensland. The Burnett Basin WRP was finalised in December 2000. The environmental impact assessment completed in October 2001 extensively modelled and tested the compliance of the proposed projects in the Burnett region with the WRP's environmental flow and other objectives.

The results of this testing demonstrated that the outcomes specified in the WRP would be retained following the development of the infrastructure projects, given that the flow release strategy associated with the dam will essentially comply with the WRP's environmental flow objectives. Any

departures from the WRP objectives are minor. There are also likely to be offsetting gains associated with improved flows at the Kolan Estuary, which are a required outcome of the WRP.

On the basis of the comprehensive environmental impact assessment process, the Queensland Parliament passed minor amendments to the WRP in December 2001. The preparation of a ROP to implement the WRP was publicly notified in February 2002.

The Queensland Government considers that the Coordinator-General's evaluation reports demonstrate that the proponent has adequately addressed matters of State environmental significance. The Commonwealth (Environment Australia) has approved the environmental impact assessment under the Environmental Protection and Biodiversity Conservation Act. The approval confirms that the likely impacts on matters of national and State environmental significance are minor, and supports the development of any of the water infrastructure development proposals with the consequent social and economic benefits.

The Queensland Government has allocated \$35 million for the Burnett River infrastructure development project in the 2002 State Budget. The Government cited this decision as evidence of its commitment to build a major dam on the Burnett River. The funding will assist with the planning, design, cultural heritage management, land purchase and other necessary pre-construction activities. At this stage, the Queensland Government has projected a starting date for construction of late 2003 or early 2004.

Submissions

Submissions concerning the proposed Paradise Dam have been received from the South East Queensland Division of the Environment Institute of Australia (submission 1), Burnett Water Pty Ltd (submission 3) and Burnett Water for All (submission 11).

The South East Queensland Division of the Environment Institute (2002, submission 1) has called for the Council to delay a favourable outcome on the amended Burnett WRP in relation to the development of the Paradise Dam until matters are resolved. The institute is a professional association for more than 350 environmental practitioners employed in all fields in Australia. Its goal is to promote excellence in environmental practice. It is concerned with the integrity of formal scientific environmental impact assessment processes in decision-making. The institute's interest is in clarifying the process and scientific standards used in the modified Burnett WRP and dam assessment.

The submission does not challenge the Queensland Government's prerogative to make decisions in light of the information presented. Rather, the institute is seeking to determine whether the decision-making process raises issues regarding professional standards of environmental management policy and practice for this (and all future) developments.

The South East Queensland Division of the Environment Institute notes that approval of the Paradise Dam is conditional on an environmental impact assessment carried out on behalf of Burnett Water. As a result of widespread criticism of both the science and the process in the impact assessment, the Environment Institute of Australia (Queensland Branch) have instigated a review. The institute considers that a number of conclusions in the environmental impact assessment question whether the dam is ecologically sustainable. It is seeking clarification from the Queensland Government before finalising a position.

Burnett Water is a Government-owned company established as the proponent for the dam project. The Minister for State Development is the sole shareholder of Burnett Water.¹⁰ The Department of State Development, charged with progressing water infrastructure in the State, is overseeing this project. Burnett Water argues that the proposed water development projects in the region are economically viable and ecologically sustainable. The submission raises the following matters in support of this view.

- Environment impact assessments were completed for five water storages in the Burnett: the Paradise Dam site, the Eidsvold Weir, the Barlil Weir and the raising of Jones Weir and the Walla Weir. Sinclair Knight Merz conducted the assessments.
- All State and Commonwealth environmental approvals have been received for all developments except the Walla Weir (which the Queensland Coordinator-General deferred until further studies are completed).

Economically viability

The environmental impact assessment included an assessment of the regional economic impact and a cost–benefit analysis. The work was done by Network Economic Consulting Group, Professor John Mangan (Queensland University), and Alliance Economics (see www.burnettwater.com.au). They concluded that the proposed Burnett projects are economically robust and provide net economic and social benefits. In summary, the regional economic benefits of the five proposed water storages are:

- net benefits of \$1.7–\$2.9 billion;
- a 70 per cent increase in the available regional water supply and improved reliability of water delivery in the region;
- the growth and development of value added services and products;

¹⁰ The Minister has no legislative role in the environmental impact statement process. The Department of State Development's role is to coordinate whole of Government consideration and resolution of issues relating to the projects.

- **increasing regional financial security due to more reliable agricultural production;**
- **the establishment of service industries and employment for youth and indigenous peoples;**
- **1200 full-time jobs and the retention of 1700 jobs during construction of the projects. Nearly 900 jobs are from direct construction of the projects and complementary infrastructure;**
- **more employment from the infrastructure, including 7500 jobs in agriculture and 1000 jobs in value adding projects;**
- **an increased turnover of over \$1.6 billion per year in agricultural production. With value added projects, the turnover could be nearly \$2 billion per year in increased total output; and**
- **more than \$850 million of economic growth (gross domestic product).**

Environmental sustainability

- **The environmental impact assessment found minor amendments to the Burnett WRP would be needed to allow the implementation of the projects. The Water Infrastructure Development (Burnett Basin) Amendment Act made minor amendments to the WRP in December 2001.**
- **Under the Water Act, the next stage of the new Burnett WRP is the preparation of the ROP. Completion of the ROP is a condition for any final commitment to the Burnett River Dam and relevant weirs. All efforts will be made when the ROP is complete to refine infrastructure operation strategies to improve the environment flow targets in the WRP.**

Burnett Water for All oppose the Paradise Dam as being neither economically viable, nor environmentally or socially sustainable. Its submission raises the following matters in support of this view.

The approval process

- **All mainstream studies show that the dam is not an environmentally, economically, or socially viable proposition.**
- **Scientific studies, including the draft water allocation management plan for the Burnett Basin (June 2000), show the river is almost fully allocated.**
- **In realising that additional infrastructure would be needed in the Burnett to get Paradise through, the Government has legislated that the mean annual flow can be reduced to 72 per cent of natural flows, or 9 per cent less than the 81 per cent recommended by the water allocation and management plan.**

-
- The environmental impact statement, which was undertaken over approximately six weeks, is overriding many years of scientific studies and community consultation. It is considered to be inaccurate, biased and largely unsubstantiated. This view is supported by three State Government departments (the Department of Natural Resources and Mines, the Department of Primary Industries and Fisheries, and the Environment Protection Agency). The response of these agencies to the environmental impact statement was that it did not adequately address a number of major impacts and that further investigation was required. In signing off the environmental impact statement, the Government ignored the reports and recommendations of these departments and the water allocation and management plan studies.

Economic viability

- The cost of the water from Paradise Dam reportedly will be \$1300–1500 per megalitre to cover the capital expenditure, with annual water charges for delivery of \$50 per megalitre. This cost does not incorporate the mitigation strategies proposed to 'handle' environmental damage. The environmental compliance costs for Walla Weir on the Burnett River are reported to be enormous, compared with the original budget.
- Bundaberg irrigators are arguing that the cost of the water is too high and are requesting subsidies from the Government. Public meetings are talking of 'government–industry' partnerships and media releases are claiming that water is 'the last straw' for the Bundaberg sugar industry. A cost of \$70 per megalitre to lease new allocations is argued to be more feasible for local growers.
- Paradise Dam is unlikely to proceed without Government subsidies. The Nathan Dam in the Fitzroy Basin is yet to proceed due to the failure to source adequate private sector finance.
- Queensland Treasury seriously questions the claimed economic benefits, stating they are optimistic.
 - The \$650 million additional vegetable production represents a 120 per cent increase over existing vegetable production levels in Queensland (\$540 million). It is also questionable whether markets have been identified for this level of vegetable produce.
 - Treasury questioned the 484 full time jobs to be created during construction (as noted in the economic analysis). The environmental impact statement states that a construction force of 40 would be needed.
- The economic analyses in the Paradise Dam environmental impact statement do not account for the economic costs to the region 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.

Ecological sustainability

- The Burnett Water proposal fails to meet (by far) the environmental flow limits recommended in the Burnett WRP. The Department of Natural Resources and Mines and the Environment Protection Agency also noted this failure in their responses to the environmental impact statement.
- The risk assessment diagrams produced by the Technical Advisory Panel for the water allocation and management plan showed that increased levels of water allocation in the Burnett Basin are likely to change the river's flow regime and increase the likelihood of major impacts on riverine health and ecological conditions.
- In the longer term, the impacts arising from existing levels of development can be expected to be greater than those already apparent.
- The Paradise Dam will capture a significant proportion of the small flows which occur every one to two years resulting in a substantial breach of the recommendations of the water allocation and management plan. This severe reduction in small flows will have a profound impact on the entire ecology of the Burnett River system, affecting:
 - water quality, salinity, nutrient concentration, pesticides and heavy metals;
 - fish populations (both freshwater and estuarine);
 - aquatic fauna habitats;
 - algal blooms (blue green algae), which already are a problem in Burnett storages;
 - aquatic weeds such as *Salvinia*, which choke the river and deprive fish of oxygen; and
 - silt levels and thus the river channel shape and form.
- The State of the Rivers study for the Burnett reported that the Burnett River was generally in a poor state of health. Specifically, it found:
 - moderate to high disturbance of some environs;

-
- generally low diversity of the channel habitats;
 - riparian vegetation in poor condition;
 - restricted passage for aquatic organisms in the majority of the area due to barriers such as weirs, and log jams; and
 - moderate to poor instream aquatic habitats, exhibiting few features to provide habitat for aquatic organisms.
- A recent study of the estuarine area of the Burnett River found low fish and crustacean recruitment levels, which indicate a highly regulated river with a degraded fish habitat.
 - The Burnett River system is gifted with two rare inhabitants, one of which (the lungfish) is native to the Burnett and Mary rivers of south east Queensland. The other is the *Elseya* freshwater turtle. Both of these aquatic animals are threatened by the construction of Paradise Dam.

Water quality targets and the Great Barrier Reef

- Development of Paradise Dam will prevent the Burnett River reaching water quality targets set as part of the recently announced Great Barrier Reef Water Quality Action Plan.
- The plan identifies irrigation infrastructures such as dams and weirs as a threat to existing fisheries through siltation of the Burnett River below the barrage. It specifically lists dams as having the capacity to modify water regimes and have a significant downstream impact on the Great Barrier Reef World Heritage Listed Area.

Alternatives to the Dam

- Water use efficiency as an alternative to infrastructure was much understated in the environmental impact statement. Up to 80 gigalitres per year could be saved by upgrading the channel system and improving water use efficiency in the Bundaberg Irrigation Area.
- Water use efficiency by irrigators over the whole catchment can generally be improved by 10–30 per cent, with potential gains of up to 50 per cent for some systems, using a combination of:
 - water scheduling;
 - trickle irrigation;
 - water reticulation (water recycling); and
 - fixed bed systems.
- A Technical Experts Group organised by the Department of Natural Resources and Mines, in conjunction with the Burnett Development

Reference Group (a community panel), carried out an assessment of 30 of the infrastructure alternatives for the Burnett Catchment during 2000. This process rated each proposal over a large range of environmental, social and economic criteria. Members of this group reported that Paradise Dam dropped out of the assessment at several stages, as a result of poor performance, yet kept re-appearing at each subsequent stage, for political reasons.

Water trading

Progress report: Progress with implementing interim trading arrangements.

Next full assessment: The Council will assess intrastate trading arrangements in 2003, and interstate trading arrangements in 2004.

Reference: Water reform agreement, clause 5

Queensland progress – Mareeba Dimbulah trading trial

Under the Water Act 2000 there are two types of permanent trading allowed.

- 1. The trading of interim water allocations (that is the existing entitlements held by SunWater customers); and**
- 2. Trading of water allocations at the completion of the resource operations plans.**

In respect of the interim trading, this is undertaken by the making of a regulation under Section 193 of the Water Act. This statutory provision continues head of powers which existed under the *Water Resources Act 1989* allowing for the permanent transfer trading trial which commenced in the Mareeba Dimbulah Irrigation Area in 1999.

The Department of Natural Resources and Mines is in the process of completing an evaluation of the Mareeba–Dimbulah trading trial with a view to extending it to a number of other SunWater supply schemes pending the completion of the resource operation plans. Trading of interim water allocations is different from trading water allocations as shown in table 4.5.

Table 4.5: Local government services with between 1000 and 5000 connections

<i>Interim Water Allocations</i>	<i>Water Allocations</i>
Must be reattached to land	Separated from land title under the Water Act 2000
Terms and conditions same as licences (set periods, may be cancelled, varied, amended any time)	Granted for a period of 10 years
Administrative data base and licensing system	Water allocations register.

Source: Queensland Government (2002)

The preliminary results of the evaluation on the Mareeba trading trial are that:

- there have been relatively low volumes permanently traded. Over the two and a half year period, some 785 megalitres of a total of 150 gigitalitres of nominal allocation has been traded. Applications for transfer of a further 4 gigitalitres are pending;
- the requirement to do a land and water management plan as a precondition to a trade has not been an impediment;
- there is no need for the public advertising of a proposed transfer, given that there is a requirement for vendors to provide evidence of notification to any third party financial interests;
- there is a need for a sliding scale for transaction fees, given that people wanting to set up a new enterprise may need to secure small volumes of water from a number of different purchasers, and that this can bring with it significant transaction costs; and
- there has been an evolving refinement of the administrative procedures for processing applications, and notification requirements for SunWater to supply evidence of supply contracts with the intended purchaser.

It is proposed that this interim trading will be extended to a number of SunWater schemes, and that those schemes will be chosen on the basis of, among other things:

- Time until the likely implementation of permanent trading of water allocations. For example, it is not proposed to extend the permanent trading trial in the Fitzroy Basin when the release of a draft resource operations plan is imminent;
- Demonstrated evidence through level of temporary trading, of the demand for water by existing entitlement holders; and
- Whether there are significant resource management issues to be dealt with in the water resource plan (such as the Murray Darling catchments) that would make it inappropriate to introduce interim trading ahead of the current planning processes.

Taking these factors into account, and given the administrative burden it brings upon staff to implement the trading, the current Department of Natural Resources and Mines proposal, subject to Government approval and stakeholder consultation, is for it to be extended to other SunWater channel systems. It is intended this will occur in the first half of 2002, subsequent to the commencement of the remaining provisions of the Water Act.

Queensland progress – Trading water allocations under a ROP

The implementation of trading of water allocations issued under a ROP framework will not be possible until after the formal completion of the first ROP. This is scheduled to occur with the finalisation of the Fitzroy ROP in the second half of 2002, to be followed by the Burnett ROP in the first half of 2003.

Introduction of permanent trading of water allocations in the Fitzroy Basin under a ROP will be the first major permanent water-trading regime in Queensland. The ROP for the Fitzroy basin will define the rules under which trading can occur. With the implementation of the ROP, transferable water allocations resulting from the conversion of existing licenses will be recorded on a Water Allocation Register. The Register will be used to record details of all transferable water allocations and the corresponding dealings and interests.

More generally, the Water Act, in separating water entitlement from the land title, will enable water trading to be introduced in those areas where a WRP and a ROP exist. Under the Water Act, three types of water trading will be permitted:

- permanent transfers of water allocations;
- leases of water allocations; and
- seasonal assignments (that is, assignments of the benefit under a licence to another person for a water year, or all or part of the water that may be taken under an allocation).

Land and water management plans must be prepared by all irrigators before they will be able to purchase or lease water, except those purchasing seasonal assignments. However, seasonal assignments are to be used to meet unexpected water requirements and are not to be used in a systematic way.

The underlying principal for trading rules, that will be established for each catchment where trading is introduced, is that transfers must not compromise the ability of the resource manager to meet the key environmental flow objectives and water allocation security objectives established in the WRP for that catchment.

Other issues raised by submissions

The Chairman of the St George customer council (2002, submission 4) raises some concerns about rural water pricing in Queensland including the lack of constraints on the price SunWater charges for some types of water. SunWater has argued, for example, that some types of water it supplies do not come under the Queensland price path. For this water, SunWater can therefore charge what the market will bear. SunWater also sells water by tender that it

considers surplus (into a market short of water) partly because of the inability of the SunWater storage to deliver water at an agreed level of reliability.

Institutional reform: structural separation

Progress report: Improving the transparency of reporting price and subsidy information for smaller local governments, the role of the ombudsman in regulating service standards for local government and the management of drinking water standards.

Next full assessment: The Council will assess institutional reform in 2003.

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

Background

In 2001 the Council identified some outstanding issues in the level of separation of service delivery from price regulation and setting and enforcing service level standards in smaller local governments. It also raised issues on the management of drinking water standards.

Two processes were discussed that would resolve the issues in regulating prices and service levels. First, Queensland committed to working with the Local Government Association of Queensland to determine arrangements for ensuring information is made publicly available about pricing arrangements, community service obligations and cross-subsidies for individual local governments. This focus on transparent reporting recognises that full price regulation is not cost effective for smaller local governments. Instead mechanisms are needed to improve transparency through the availability of public information on pricing and the ability to compare local governments against each other.

Second, once local government water businesses prepare their customer service standards customers can raise any complaints with the State Ombudsman. However, at the time of the 2001 NCP assessment the Council had little information on the scope of the Ombudsman's powers. More information was needed to assess whether the Ombudsman would address service standards issues in a timely way.

On the issue of drinking water standards, in 2001 the Council noted that a Productivity Commission report (PC 2000) had concluded that in Queensland responsibility for drinking water quality rests with local governments and, unlike most other States, Queensland had no mechanism for enforcing quality standards. The Council's 2001 NCP assessment report also recognised that Queensland was reviewing its *Health Act 1937*. Queensland noted the need to take a flexible approach to the Australian Drinking Water Guidelines in rural and remote areas. The Council said it would look further at what structures were in place to manage drinking water standards across the State.

Queensland Progress

The Queensland Government already collects information from local governments on a voluntary basis and compiles that information into the *Queensland Local Government Comparative Information Report*. Nearly all local governments participate in this reporting process. This year's report is publicly available on the Department of Local Government website. Queensland has committed to working closely with the Council prior to sending the next survey to Local Governments to ensure that the information collected covers the areas necessary to meet the NCP reform commitments. Queensland will also work with the Council to overcome any practical difficulties in reporting some of the more detailed pricing information.

The Queensland Ombudsman currently has the power to investigate any complaint about the administrative actions and decisions of local governments. This includes all aspects of compliance with service standards. The Ombudsman cannot review the standards themselves, only the local government's compliance with its stated standards. The Ombudsman also has the power to conduct investigations on its own initiative if it considers such investigations are warranted.

On receiving a complaint, the Ombudsman, investigates the issues and then reports its recommendations to the local government. If the local government does not accept the Ombudsman's recommendations, the Ombudsman may refer the matter to the Premier and to Parliament. The Ombudsman's powers are recommendatory only. Queensland argues that the Ombudsman process provides transparency in the way complaints are dealt with by local governments and water authorities.

In developing guidelines for customer service standards, the Water Industry Compliance Division of the Department of Natural Resources and Mines will consult with the Ombudsman to ensure its experiences in dealing with complaints about local government water supply services is an input into the development of any standards.

Queensland's review of the *Health Act 1937* is still underway. The results are not expected until mid-2003 at the earliest. Queensland is intending to require both public and private sector water providers to prepare drinking water quality plans. The Department of Health will undertake extensive consultation on the development of these plans and is currently talking with local government on how the public can access the plans and how local government will report annually against the plans.

The Department of Health is expected to complete drafting the new Health Act at the end of 2002. The process of developing drinking water quality plans is expected to commence in early 2003.

Commercial focus

Progress report: The Council will provide an update on the commercialisation of the Townsville—Thuringowa Water Supply Board.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6(f)

Background and progress

In the 2001 NCP assessment the Council noted that nearly all major water businesses had been set up with a commercial focus. However, commercialisation of the Townsville–Thuringowa Water Supply Board had been delayed.

On 1 July 2001 the Townsville–Thuringowa Water Supply Board was commercialised and began trading under the name of NQ Water. As part of the process of commercialisation, the board has reviewed full cost pricing arrangements within NQ Water. Tax equivalents and dividends are being paid and asset valuations have been based on the deprival method. The Board has advised Queensland that it is pursuing complete compliance with full cost pricing principles.

NQ Water is also reviewing its structure and future roles as a bulk water supplier. The expected restructure is anticipated to take six to nine months. Following the restructure the board will commence a significant pricing review. The CEO has foreshadowed consolidation of bulk water infrastructure, rationalisation of non-strategic infrastructure and application of NCP principles as being the key drivers for the restructure.

Devolution of irrigation scheme management

Progress report: Whether customer councils are an effective mechanism for irrigator input into decision making.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6(g)

Background

In its 2001 NCP assessment the Council concluded that Queensland's approach to local management is restrictive. Therefore, the Council focussed on the customer councils as the most likely mechanism for providing irrigators with more input into the operation of schemes. The water reform framework envisages more than consultation: it requires these committees to have input into decisions on the management of irrigation areas.

Queensland Progress

During 2001, SunWater established 11 Customer Councils. This included electing members to the councils, establishing constitutions and providing a budget from SunWater for their operating costs. Each Customer Council individually manages its budget. There are three schemes that have decided not to formalise their status as a Customer Council whilst they are negotiating with the Queensland Government on water pricing policy matters.

Queensland has reported that the following matters were discussed with the Customer Councils during the year.

(1) Review of standard supply contracts

SunWater held discussions with each customer council on the standard supply contract approved by the Minister for Natural Resources and Mines in November 2000. Councils were invited to provide comment on the contracts with a view to negotiating changes to meet customer needs and concerns. Nine Customer Councils provided comments to SunWater directly, or through the Queensland Farmers Federation. SunWater discussed the issues with Customer Councils. Queensland Farmers Federation proposed 23 changes to the standard contract. A proposed contract that addresses issues raised by Customer Councils was sent out in December 2001, and SunWater is seeking comments in early 2002.

Feedback to date from Customer Councils and the Queensland Farmers Federation is that the process has been positive and many issues within the original contract have been adequately addressed.

(2) SunWater, in consultation with all Customer Councils, numbering about 140 members, is undertaking the following:

- Development of scheme rules
- Development of Service Charter and Service Targets, such as planned shutdowns, unplanned shutdowns, complaints handling
- Direction of longer term planning for a water supply scheme or for schemes in each area.
- Establishment and monitoring of performance against agreed standards of service.
- Monitoring of performance against efficiency benchmarks
- Area wide issues such as, metering, billing, access to customer data, use of chemicals in the water supply etc.
- Reporting against works programs and operational activities for each scheme, including backlog and renewals.

- Advice and input into the priorities for asset and refurbishment plans for the next one and five year plan(s) after observing the impact of currently implemented actions.
- Asset condition reporting.
- Advice on the type and scope of information that should be communicated from SunWater to its customers.
- Discussion of regulatory issues of common interest to SunWater and its customers.
- Procedures for dispute resolution.

(3) Council Chairs met for a day meeting (late 2001), with the Minister for Natural Resources and Mines and SunWater Board members to discuss policy and operation matters. Another meeting is planned for early 2002.

(4) Transparency of Financial Information

SunWater provided the following information to customers for each scheme:

- Total costs as a percentage of the water reform unit targets;
- Total revenue as a percentage of the water reform unit targets;
- Benchmark proportion of cost between categories;
- Actual proportion of costs between cost categories;
- Proportion of revenue between sectors; and
- Actual renewals spent compared to renewal annuity revenue collected.

(5) Water Pricing

Where SunWater sets prices, discussions were held with Customer Councils in relation to the basis for these proposed prices, and feedback sought. An independent facilitator was contracted to work with all Customer Councils to facilitate the communication process and negotiate issues between parties.

Submissions

The chairman of the St George customer council (2002, submission 4) stated that, while some issues were progressed through the customer council, SunWater was not willing to discuss all of the issues of interest to these councils. The submission was also critical of the amount of financial information available to the customer councils.

5 Western Australia

Outstanding assessment issues

Provision for the environment

Outstanding issue: Western Australia should provide an updated implementation program, including a list of existing plans and the date of effect of these plans for both surface water and groundwater systems.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

In the National Competition Council's 1999 NCP assessment, the Council published Western Australia's implementation program for developing water management plans for groundwater and surface water, and provision for the environment. The implementation program contained an assessment of the level of use of each water resource and a forward timetable of dates for the development of environmental water provisions.

In June 2000, Western Australia conducted a water assessment that resulted in improved data. In the 2001 NCP assessment, the Council accepted that Western Australia might need to revise the implementation plan published in 1999 to align it with the new data and priorities identified. The Council indicated that it would continue to monitor both the progress made in developing plans and any increased water use that may require particular plans to be completed earlier than scheduled.

The Council requested Western Australia to provide an updated implementation plan in the 2002 NCP assessment. This could include a list of existing plans and the date of effect of these plans for both surface water and groundwater systems. Regarding provision for the environment, Western Australia derives most of its water supply from groundwater and has identified no stressed river systems, so the State has until 2005 to fully implement its implementation program in this area.

Western Australian arrangements

Western Australia continues to progress the implementation of water allocations for the environment. As reported in the 2001 NCP assessment, the *Rights in Water and Irrigation Act 1914* formalises Western Australia's approach to providing water for the environment through a tiered system of statutory water management plans on a regional, subregional and local basis. Environmental water provisions are set in water management plans in the form of a notional or interim allocation limit, a water level regime for groundwater systems, or through formal assignment in areas where the resource is highly or fully committed.

Attachment 1 contains a revised implementation program that outlines the current status of water management plans in Western Australia. The table includes a list of all groundwater and surface water plans, dates of effect, the last action to have occurred in relation to the plan, and proposed actions. Water management plans continue indefinitely but it is a legislative requirement that plans are reviewed every seven years. If the plan is satisfactory it may continue unchanged. Western Australia advised that reviews are undertaken in the following circumstances.

- Plans have become outdated. This refers mainly to plans developed in the early to mid 1990's prior to the establishment of the Water and Rivers Commission. An updated plan will account for increasing demand, changing water and land use patterns, environmental considerations, community consultation and revised forecasts for future use, climate change and so on.
- It is decided that older plans do not have the comprehensive environmental allocation analysis required to establish environmental water requirements.
- Further data and analysis yield a better technical understanding of the resource and its response to pumping, leading to a revision of allocations (with some being increased and some being decreased).
- A sharp increase in demand for allocation water requires a more comprehensive determination of environmental water requirements and resource allocation limits.
- Greater 'in-depth' public consultation is undertaken.

Assessment

Western Australia has provided a revised implementation program for the implementation of water management plans, reports and allocation strategies. The program shows there were no stressed or overallocated surface water systems that required action by June 2001.

The Council is satisfied that Western Australia has met the outstanding 2001 NCP commitment. It will use the revised program to assess compliance in the 2004 and 2005 NCP assessments.

Environment and water quality: integrated catchment management

Outstanding issue: Western Australia must show progress in implementation of integrated catchment management reforms.

Next full assessment: The Council will assess integrated catchment management reforms in detail in 2003 when it will expect the reforms planned in 2001 to have been implemented and any outstanding issues to be resolved.

Reference: Water reform agreement, clauses 6(a–b) and 8(b–c)

Background

In the 2001 NCP assessment, the Council was concerned with Western Australia's slow progress in implementing actions to address broader catchment management issues. The reasons cited for the slow process included delays in establishing partnership agreements with natural resource management bodies which are to develop and implement regional strategies. Western Australia acknowledged that there had been slow take-up of some strategies aimed at catchment recovery, such as reduced tree clearing, and that Western Australia was changing its approach to improve progress.

As at June 2001, one regional strategy by the South Coast regional planning team was endorsed by natural resource management agencies and four others were at the draft stage. Processes were also under way in accordance with the National Action Plan on Salinity and Water Quality, which may require changes to the implementation of natural resource management. The Council undertook to continue to review the implementation of integrated catchment management in the 2002 NCP assessment.

Western Australian arrangements

Western Australia has endorsed an integrated catchment management–natural resource management policy for the State.¹ The Minister for Agriculture and the Minister for Environment oversee the natural resource management processes. A Senior Officers Group (involving representatives

¹ This policy excludes fisheries and minerals.

from Western Australian agencies²) has been formed to address natural resource management issues.

Partnership agreements between the Western Australian Government and natural resource management groups are in development to provide support, clarify expectations and quantify deliverables. The five natural resource management groups that will implement the natural resource management policy are South Coast, South West, Swan, Avon and Northern Agriculture. Additional natural resource management groups will be established in the Pilbara and Kimberley.

Each natural resource management group has subcatchment groups, which have local action groups. Membership of all of these groups comprises representatives from the community and the Government. A Regional Chairs Coordinating Group comprises the chair of the natural resource management groups, senior Government representatives and representatives of the Pilbara and Kimberley.

All five natural resource management groups have prepared regional strategies that are in different phases of development. All have draft strategies, although two strategies are being rewritten (South Coast³, and Northern Agriculture). One strategy is out for community consultation (South West). Two more strategy plans (Swan and Avon) are being reviewed in light of submissions from public consultation.

All strategies will be reviewed to ensure compliance with the requirements of the National Action Plan on Salinity and Water Quality and National Heritage Trust II. State Government departments are working with the five regional natural resource management groups to update and finalise the regional strategies against the accreditation criteria. The Natural Resource Management Ministerial Council set criteria under the National Action Plan for Salinity and Water Quality and the extension to the Natural Heritage Trust.

Two draft regional strategies (Avon and South West) have been sent to the Commonwealth for informal assessment against the accreditation criteria by Agriculture, Fisheries and Forestry Australia and Environment Australia. A workshop with Commonwealth representatives and the regional groups is intended to work through deficiencies in the draft strategies from a Commonwealth perspective, ensuring the final strategies meet Commonwealth objectives.

² These include 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.

³ The South Coast strategy was endorsed by agencies but not by the Cabinet Standing Committee on natural resource management. Western Australia subsequently decided to review the strategy and to prepare a new vision.

In other developments, the Water and Rivers Commission is devising a high value waterway strategy to cover allocation planning for extractive uses. A Statewide assessment method will be used to assess the value, condition, pressure and required management responses for each waterway. Assessments will consider the demands and conditions of the waterway based on environmental, social and economic parameters. The strategy will be the subject of public consultation.

Assessment

Since June 2001, there has been some progress in the development of the regional strategies. At the time of writing, Western Australia was in the process of negotiating with the Commonwealth to sign an intergovernmental partnership agreement as part of the National Action Plan on Salinity and Water Quality. The development of the regional strategies to achieve integrated catchment management objectives, including salinity management, will be negotiated as part of any final bilateral agreement under the National Action Plan process.

The Council is satisfied that Western Australia has met the outstanding 2001 NCP commitment. It will next assess integrated catchment management arrangements for all states in the 2003 NCP assessment.

Environment and water quality: National Water Quality Management Strategy

Outstanding issue: Western Australia is to finalise and publicly release a State water quality implementation plan and completed draft strategy guidelines for freshwater and marine water quality, drinking water, and water quality monitoring and reporting.

Next full assessment: The Council will reassess this area for all jurisdictions in 2003.

Reference: Water reform agreement, clause 8(b) and (d)

Background

In 2000, Western Australia developed the State Water Quality Management Strategy as the framework to implement the requirements of the intergovernmental National Water Quality Management Strategy. Cabinet endorsed the State strategy in April 2001. The next stage was to develop a State water quality implementation plan to set the priorities for implementing the national strategy guidelines.

The endorsement of the State Water Quality Management Strategy meant Western Australia met minimum commitments for the 2001 NCP assessment, but the Council expressed concern at the rate at which the State was adopting the National Water Quality Management Strategy. Western

Australia is one of the last jurisdictions to adopt the strategy in a meaningful way.

In the 2001 NCP assessment, Western Australia provided the Council with a provisional timetable outlining a process to implement the national strategy. Given the delays in implementation to date, the Council determined that it needed to examine evidence of progress against this timetable over the following three NCP assessments. In the 2001 NCP assessment, the Council stated that for the 2002 NCP assessment it expected:

- the finalisation of the State water quality implementation plan and its release as a public document; and
- completed drafts for public release showing the means of implementation of National Water Quality Management Strategy guidelines for:
 - freshwater and marine water quality;
 - drinking water; and
 - water quality monitoring and reporting.

Western Australian arrangements

Western Australia provided the Council with information in respect of all modules of the National Water Quality Management Strategy (Attachment 2).

Western Australia restated its commitment to implementing the national strategy. It released the State strategy in May 2001 and fully adopted the strategy as State Government policy. The State water quality implementation plan is under development and Western Australia has advised that the plan is a priority for 2002–03. Western Australia has advised that the plan was not prepared for release in 2001–02 as priorities were diverted to drought management measures (such as finalisation of water source protection plans for public drinking water sources, conservation measures, planning new sources etc).

Western Australia submits that it has applied the national water quality management strategy in a practical and meaningful way through a variety of programs outside the formal national water quality management strategy program submitted to the Council in the 2001 NCP assessment. Examples are the development of an environment protection policy for Cockburn Sound with full community and stakeholder consultation, and the ongoing assessment and licensing of development proposals. These ongoing tasks are subject to formal legislative processes that use the national water quality management strategy guidelines.

A Senior Review Panel of Government representatives chaired by the Water and Rivers Commission is responsible for implementing the State strategy. A

Community and Industry Advisory Committee is being formed to assist in the implementation of the State strategy. A meeting was held in February 2002 to seek expressions of interest for membership to this committee. The committee will be involved in strategic level policy formulation, guideline preparation and water quality management programs, objectives and strategies.

The State water quality implementation plan has not been finalised but is planned for release by December 2002. Other documents that support the plan, however, were progressed in Western Australia.

Framework documents for freshwater and marine water quality, and water quality monitoring and reporting have been prepared. A draft implementation framework for *Guidelines for Fresh and Marine Water Quality and Water Quality Monitoring and Reporting* (national strategy modules No. 4 and 7) was expected to be finalised by August 2002. Consultation with Government agencies is complete and other stakeholder consultation commenced in May 2002. The finalisation of these documents is subject to the Environmental Protection Authority's report of its findings to Government. The documents will be referred to the State representative panel for comments as part of the process for finalisation, and are expected to be finalised by December 2002. The Chairman of the Environmental Protection Authority has indicated that these documents will form part of a series of State water quality management strategy documents.

The Health Department and Water Corporation of Western Australia (the major water service provider) have developed a memorandum of understanding that includes provisions for safe drinking water consistent with the 1996 national guidelines.

Western Australia has advised that drinking water supplies are expected to meet these guidelines by December 2002 in the metropolitan areas and by 2005 in country areas. In the interim, Western Australia advises that it is preparing local water source protection plans that set out the regulations, policies and action required to protect individual drinking water sources. In February 2002 a working draft of the *Western Australian Guidelines for Direct Land Application of Biosolids and Biosolids Products* was released. These guidelines are based on the National Water Quality Management Strategy *Draft Guidelines for Sewerage Systems Sludge (Biosolids) Management 2000*.

In March 2000 Western Australia released *Environmental Guidelines for New and Existing Piggeries* which are consistent with the *Effluent Management Guidelines for Intensive Piggeries* of the National Water Quality Management Strategy.

Water source protection plans for drinking water supplies have continued. Source protection plans have been completed for Derby, Mooloolaba, Allanooka/Dongera/Denison and Quinup. Draft plans exist for Preston Beach and a number of Perth Hill catchment sources. The Preston Beach plan has been released for public review.

It is Western Australia's position that development of implementation plans for some national guidelines is not warranted at this time given the low numbers of relevant industries in Western Australia (for example wool scourers). Additionally, other guidance documents will be required to be developed in Western Australia that are not related to the national guidelines but are important to the successful implementation of other State water quality initiatives.⁴ For some implementation plans, preparation of supporting documents has preceded finalisation of the implementation plan.

Western Australia does not consider the development of a specific implementation plan for groundwater protection national guidelines (module 8) is necessary at this stage given existing mechanisms are consistent with the national guideline. These processes include groundwater abstraction licensing, gazettal and management of underground water pollution control areas in Gngangara and Jandakot. These areas have additional protection measures through land use and water management strategies to protect groundwater quality. These strategies were developed across Government agencies and through public consultation.

The Water Corporation and Water and Rivers Commission is planning to review the work program in relation to national guidelines 8 and 11 to 15 if resources permit during 2002–03.

Discussion

A review of the detailed implementation timetable (published as Attachment 3 in the 2001 NCP assessment for Western Australia) shows that a draft of the State water quality implementation plan should have been released in December 2001 for two months public consultation, with a final plan prepared and published by May 2002. Public consultation is now scheduled in December 2002.

In relation to the development of the individual National Water Quality Management Strategy modules, the timeframes set by Western Australia in the 2001 NCP assessment that are relevant to this NCP assessment are as follows:

- for the Guidelines for Fresh and Marine Water Quality (module no. 4), release of a draft framework for public comment by February 2002 (with the final framework scheduled for release by the end of July 2002);
- for the Australian Drinking Water Guidelines (module nos 5 and 6), release of a draft for public consultation in February 2002, endorsement by the panel in May 2002 and a final framework published by the end of June 2002;

⁴ For example, support documents for the proposed statement of planning policy for public drinking water source areas.

-
- for the Guidelines for Water Quality Monitoring and Reporting (module no. 7), release of a draft by April 2002 for two months of public consultation;
 - for the Guidelines for Groundwater Protection in Australia (module no. 8), release of a draft by the end of May 2002;
 - for the Guidelines for Sewerage Systems – Effluent Management (module no. 11), release of a draft framework by the end of May 2002; and
 - for the Effluent Management Guidelines for Dairy Sheds (module no. 16a) and Effluent Management Guidelines for Dairy Processing Plants (module no. 16b), release of a draft framework by January 2002 and the final framework published in June 2002.

Western Australia has argued there is a need to change the agreed timetable provided in the 2001 NCP assessment and that it does not believe that compliance with the timetable should be the sole basis for assessment of its commitment to implementing the National Water Quality Management Strategy. Information provided by Western Australia during the course of this assessment indicates that work on ten of the guidelines scheduled for commencement in 2001–02 has not started and is not scheduled to commence in 2002-03 either.

Western Australia has not met the outstanding 2001 NCP commitment and has made little progress against its water quality commitments in the water reform agreements. In 2001, the Council published a three-year timetable for Western Australia to meet its commitments. Western Australia has made no progress against that timetable and has withdrawn from some of the commitments it made at that time.

The Council also notes that all governments first agreed on the policies of the National Water Quality Management Strategy and the national module for freshwater and marine water in 1992. Western Australia is yet to release a draft of its guideline for this module for public comment. According to the timetable, two months is needed for public consultation and a further four months to finalise the policy. A draft of the Guidelines for Water Quality Monitoring and Reporting is also yet to be released for public consultation.

Western Australia has advised that it prefers to wait for the next revision of the national drinking water framework before progressing a State based implementation plan. The Council does not support this approach. While Western Australia has completed a number of local water source protection plans for individual drinking water sources, the Australian drinking water guidelines were first developed in 1987 and revised in 1996. Moreover, the Council is aware of water quality supply issues in a number of smaller rural areas, and in groundwater a number of land uses in priority areas have resulted in the closure of some production wells. The Council is not aware of any good reasons why the national guidelines have not been implemented in Western Australia by now.

Further, with regard to the Guidelines for Groundwater Protection in Australia the Council does not accept Western Australia's position that implementation is unnecessary at this time. The Council accepts Western Australia has processes in place to address groundwater resources at Gnangara and Jandakot, but notes that there are significantly more groundwater resources in Western Australia than these two areas.

With regard to the information provided in Attachment 2, the Council makes the following comments concerning Western Australia's justifications for not applying the national modules:

- Rural land use (module 9) and dairy sheds effluent (module 16a). The Council is concerned that Western Australia's mechanisms may not address this module particularly with regard to broadscale agriculture activities. Some potentially polluting activities such as land clearing are not considered to be polluting activities under the Environment Protection Act. Dairying also remains a significant polluting activity in south west Western Australia with some 70 per cent of nutrient entering Geographe Bay, yet these activities are unlicensed and unregulated under the Act, and they do not meet acceptable effluent management practices.
- Trade/industrial waste acceptance (module 12). The Water Corporation has well developed trade waste acceptance criteria, although enforcement of the criteria has been somewhat problematic. Considerable work has been done in Cockburn Sound and Peron outfall. The Council accepts Western Australia's arguments that this module should have a lower priority.
- Wool scouring and carbonising (module 18). While Western Australia has only one wool scourer, the Council understands that the discharges are not regulated and include the use of a wetland as a treatment pond.
- Tanning and related industries (module 19) and wineries and distilleries (module 20). All tanneries and major wineries with wastewater treatment are licensed in Western Australia. The guidelines for other wineries are based on best practice. The Council accepts Western Australia's justifications for not applying these modules.

Western Australia has made little progress in declaring the environmental values of water to be protected, in identifying water quality objectives, or in setting targets to be incorporated in management plans. A number of key environmental protection policies were developed in 1997 for marine waters, groundwater, and rivers and estuaries. These policies, which would provide for the statutory declaration of environmental values are, however, still in draft form.

Assessment

Western Australia has not met its outstanding commitments. While this would ordinarily be considered within the Council's assessment of whether Western Australia should receive all of its NCP payments, the Council is prepared to allow Western Australia more time for the implementation of its water quality commitments and to get the program back on track.

The Council notes that Western Australia's advice on how it has implemented the national water quality management strategy reflects a changed program from that agreed by the Council for 2001-02. On this matter, the Council expects the agreed 2002-03 program to be implemented and any proposed changes to be discussed with the Council. The Council has also noted that some alternative initiatives were implemented by Western Australia to demonstrate compliance as a substitute for the work agreed that was proposed but not completed.

The Council has agreed that Western Australia would fully meet its relevant 2002 NCP assessment commitments if it can complete and implement those plans identified by the Council in the 2001 assessment. Such action would give the Council confidence that Western Australia can deliver the outcomes of the national strategy and meet its water quality commitments. The plans required to be finalised are the:

- State water quality implementation plan to ensure integrated and coordinated action across government agencies and with stakeholders; and
- specific State based implementation plans to reflect the national strategy guidelines for freshwater and marine water quality (National guideline 4), drinking water (National guideline 6), and water quality monitoring and reporting (National guideline 7).

The Council will conduct consultative meetings in December 2002 and March 2003 between the Council's Secretariat and Western Australian officials to ensure sufficient progress is being achieved. It is proposed that a number of milestones will be met for these meetings.

For the December 2002 meeting, the Council would expect to see:

- a substantial draft of the State water quality implementation plan;
- the three other implementation plans finalised ready for release; and
- an assessment of progress to achieve the 1996 Australian drinking water guideline values in the metropolitan area consistent with the memorandum of understanding available in Western Australia.

For the March 2003 meeting, the Council would be looking for

- the State water quality implementation plan to be finalised; and

- demonstrable progress on all other modules scheduled for 2002-03 against the work program in attachment 2 and, where possible, draft implementation plans for national guidelines 8 and 11 to 15.

Should the Council consider insufficient progress has been made at the December 2002 and March 2003 meetings, the Council may submit a report to the Treasurer recommending a suspension of some of Western Australia's quarterly NCP payments. Otherwise, the Council will expect to be able to report progress in the electronic Council newsletter to ensure transparency with the 2002 NCP assessment recommendations on this issue.

In 2003, the Council will consider, as part of the assessment of compliance by all States with the National Water Quality Management Guidelines, whether Western Australia continues to make sufficient progress against its commitment to avoid an adverse payment recommendation. The Council understands that the Western Australian Government has considered and agreed to the Council's proposed approach and is currently in the process of providing formal agreement.

Progress report issues

Urban full cost recovery: asset values

Progress report: Improvement in asset valuation by Aqwest, Busselton Water Board, and the City of Kalgoorlie–Boulder

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3; Expert Group report on asset valuation

Background

For the 2001 NCP assessment, the Council was informed that Aqwest reports an independent valuation of land and mains assets, while valuing all other noncurrent assets at cost. Busselton Water Board reports noncurrent assets at either historic cost or 1996 cost, depending on the asset class. Western Australia advised that assets used by the City of Kalgoorlie–Boulder are reported at their written-down historic cost.

The Council expressed concern in 2001 that Aqwest, the Busselton Water Board and Kalgoorlie-Boulder did not use the deprival approach to asset valuation to a greater extent. At that time, the Council suggested that the deprival approach provides a sound basis for setting prices that reflect an asset's future store of benefits and, therefore, reflect the cost of the service received and encourage efficient water use. The CoAG guidelines require the

adoption of the deprival approach unless specific circumstances justify another method.

In 2001, the Council had received no justification of why the circumstances faced by Aqwest, the Busselton Water Board and Kalgoorlie-Boulder warrant an alternative method.

Western Australian progress

For the 2002 NCP assessment, Western Australia reports that it is considering the introduction of improved asset valuation methods, but has not changed its current arrangements. Aqwest and the Busselton Water Board are considering asset values in conjunction with the evaluation of a two-part tariff structure.

Western Australia will commence consultation with Kalgoorlie-Boulder over the next six months, encouraging it to adopt the deprival approach to valuing the city's wastewater assets.

Full cost recovery: externalities

Progress report: Developments in factoring externalities into pricing by urban service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Background

For the 2001 NCP assessment, the Council was advised that Western Australia has no explicit provision for passing on to urban water users the costs of addressing any broader environmental effects of urban water use. The Water Corporation has some environmental obligations, however, and to the extent that these obligations increase costs, they are passed on to water users.

Western Australian progress

Western Australia reports that it is considering how to value externalities by using a distribution rule for their direct inclusion in pricing. Significant issues require careful consideration, however, before this rule can be finalised and implemented. A major challenge is to determine an appropriate level of charging to internalise the externality.

Western Australia states that it is committed to accounting for externalities in important decisions on water resources. Currently, externalities are considered in all cases as part of resource management decision making, so are indirectly factored into the cost of any action that has the potential to produce environmental externalities.

Full cost recovery: tax equivalent regimes

Progress report: Developments in implementing tax equivalent regimes for metropolitan service providers

Next full assessment: The Council will re-assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on TERs

Background and Western Australian progress

Western Australia reports that the Water Corporation, Aqwest and the Busselton Water Board are subject to income tax under the national tax equivalent regime in accord with the principles of competitive neutrality. It will continue to impose on these organisations all other taxes that would apply to a private sector organisation undertaking the same activity. All tax equivalents are paid to the Western Australian Government's consolidated revenue.

For 2000-01, the Water Corporation paid over \$160 million in income tax equivalents and payroll, land and other statutory taxes (including fringe benefits tax, and goods and services tax). In the same year Aqwest made income tax equivalent payments of \$1 million, while the Busselton Water Board had an income tax equivalents credit of \$11 700. The City of Kalgoorlie–Boulder is not subject to the national tax equivalent regime and thus pays no tax or tax equivalents.

In its 2001 NCP assessment, the Council outlined that taxes or tax equivalent regimes are required as part of full cost recovery for all water businesses. The Council also expressed concern that the costs recovered by Kalgoorlie-Boulder did not include tax equivalent payments. The information provided for this 2002 NCP assessment indicates that this situation has not changed.

Consumption based pricing: urban

Progress report:

- Continued progress in eliminating free water allowances and gross rental values from water and wastewater charges
- Implementation of pricing reforms for metropolitan commercial wastewater services
- Consideration by the City of Kalgoorlie–Boulder of charges for trade waste and other wastewater services

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3; Expert Group report

Background

For the 2001 NCP assessment, the Council had particular issues with the following matters, and indicated that a progress report for 2002 would be necessary.

- *Aqwest and the Busselton Water Board:* Current commercial and industrial customers paid a fixed charge based on gross rental value and a volumetric charge for consumption in excess of a free water allowance. The significant free water allowances were diluting the price signal attached to the water and reducing the incentives to use water economically. The Council considers that significant free water allowances undermine the CoAG principle of consumption-based pricing. In 2001, Western Australia reported that Aqwest and the Busselton Water Board were moving commercial and industrial customers to a two-part tariff and eliminating free water allowances over the following twelve months.
- *Water Corporation country services:* Wastewater charges for nonmetropolitan urban residential and commercial customers were based on gross rental value. A maximum charge of \$550 was placed on nonmetropolitan urban residential charges for the first time in 2001. At that time, the Council expressed concern about the apparent lack of progress in removing gross rental values from country commercial charges. It suggested that the Water Corporation consider extending the use of a maximum charge to nonmetropolitan urban commercial customers.
- *Metropolitan commercial wastewater:* Charges were based on water consumption, and volumetric charging applied only to customers who had wastewater discharge greater than 200 kilolitres. In 2001, the Council had not been provided with any evidence of the extent of correlation between water consumption and wastewater discharge. The Council also stated that it would monitor the implementation of the regime, including the 200 kilolitre threshold.

- *Kalgoorlie-Boulder wastewater*: Charges were based on gross rental values. The Council had not received advice on when or even if the city would phase out use of gross rental values. It expected Western Australia to explore the potential for cost-effective trade waste charges among smaller wastewater service providers, and the degree to which existing arrangements resulted in nontransparent cross-subsidies between dischargers.

Western Australian progress

Progress in eliminating free water allowances and gross rental values from water and wastewater charges

Western Australia has reported that the Water Corporation, the Busselton Water Board and Aqwest have made significant progress in eliminating free water allowances and gross rental values from water and wastewater charges.

Western Australia's progress on metropolitan water and sewerage service reforms is summarised in table 5.1.

Table 5.1: Water Corporation's progress on tariff reforms

	<i>Residential</i>	<i>Commercial</i>
Water, metropolitan	Complete	Complete
Water, country	Complete	Complete
Sewerage, metropolitan	Increase in minimum charge has been delayed	Revised phase-in, due to be complete in 2008-09
Sewerage, country	Increase in minimum charge has been delayed	Under review

Source: Department of Treasury and Finance, Western Australia (2002)

The move towards a standard residential charge for sewerage in the metropolitan area is now anticipated to be completed in 2008-09 (previously 2006-07) if increases to the minimum charge are maintained. Options for dealing with financial hardship cases that may arise are also being considered. Free water allowances have been removed from all residential and commercial charges. The only remaining allowances are for community groups and institutions, and a proposal to remove these allowances is awaiting Ministerial approval. Residential vacant land sewerage charges are still based on gross rental value, but increases in the minimum rate (capped to 10 per cent plus a standard general price increase) have been applied.

The Water Corporation has developed options similar to the metropolitan charging structure for country commercial sewerage customers. The options are based on a model incorporating a fixed charge (reflecting major fixtures)

and volumetric charges. Western Australia is considering a uniform charge in line with the metropolitan area, a uniform charge across country customers and differential charges based on individual town or regional costs. Analysis indicates that a significant redistribution of charges will be needed, which will affect primarily the tourism and health industries. The Government has established a joint working party to consider the implementation of these pricing reforms.

Western Australia expects a minimum phase-in period of five years for reforms to country commercial sewerage charges. In some regions, the phase-in period will be considerably longer.

Implementation of pricing reforms for metropolitan commercial wastewater services

Western Australia is continuing to implement metropolitan wastewater charges in line with the framework outlined in the 2001 NCP assessment, and this process is due for completion in 2008-09. Metropolitan commercial sewerage reform commenced in 1995, converting property-based charges to 'cost-reflective' charges based on the number of major fixtures (water closets, urinals, pan washers) and the volume of sewage discharged to the wastewater system. Alternatives to a major fixtures and volume charge were considered at the time. The reform seeks to reduce the cross-subsidy between business and residential customers, and to introduce a cost-reflective two-part tariff.

When the tariff reform is complete, the service charge (based on major fixtures) will recover approximately 70 per cent of commercial revenue, while the volume charge (for which water volume consumed is adjusted by a discharge factor) will recover 30 per cent. This ratio reflects the fixed and variable costs in operating the wastewater system. A phase-in period of six years was originally agreed.

Consideration by the City of Kalgoorlie–Boulder of charges for trade wastes and other wastewater services

In Kalgoorlie-Boulder, trade waste charges are still based on gross rental values. The Western Australian Government will include this issue in its consultation with Kalgoorlie-Boulder in the last six months of 2002.

Cross-subsidies

Progress report: Phasing out of gross rental values, as well as a broader and more systematic consideration of cross-subsidies

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clause 3(a)(i)

Background and Western Australian progress

For the 2001 NCP assessment, the Council considered that Western Australia's approach to removing cross-subsidies was less rigorous than that of some other jurisdictions. At that time, the Council had not been advised of any guidelines established or case studies done to indicate whether cross-subsidies exist between different customer groups or different geographic areas in the State.

Phasing out gross rental values from water and sewerage service charges will help reduce the potential for nontransparent cross-subsidies (see the section on urban consumption-based pricing). Western Australia has not provided, however, any further information on a broader and more systematic consideration of cross-subsidies.

Institutional reform: structural separation

Progress report: Implementation of independent price regulation and changes in Ministerial responsibilities.

Next full assessment: The Council will re-assess institutional reform in 2003.

Reference: Water reform agreement, clause 6

Background

In the 2001 NCP assessment, the Council looked at institutional arrangements in Western Australia in some detail. That analysis concluded that a range of mechanisms, either in place or proposed, could deal with potential conflicts of interest in the Minister for Water Resources' responsibilities for regulation and service provision. Some of these initiatives were still being implemented in 2001. In particular, Western Australia had committed to the introduction of independent price regulation. The Council, however, had few details on these new regulatory arrangements at the time of the 2001 NCP assessment.

Western Australian progress

In its 2002 NCP annual report, Western Australia restated its commitment to establishing an independent Economic Regulation Authority whose coverage would include water. Western Australia also provided more detail on the functions of this authority. It stated that the authority would comprise at least one (and up to three) commissioners reporting to the Western Australian Treasurer, while water services would remain the responsibility of a separate Minister.

The Economic Regulation Authority will perform a range of economic regulatory functions currently performed by Ministers, sector-specific regulators and public sector officials. The proposed functions of the authority include:

- independently granting industrial licences and ensuring compliance with terms and conditions applying to licences; and
- making expert recommendations to Government about tariffs and charges for Government monopoly services, and about any other matters requested by the Government.

In addition, since the 2001 NCP assessment, Western Australia has changed the structure and responsibilities of a number of government departments. Several of these changes improve the level of separation between service provision and regulation in the water industry.

The government has strengthened the independence of the Environmental Planning Authority by giving it more autonomy and greater flexibility in deploying its own resources. The Water and Rivers Commission is the responsibility of the Minister for Environment and Heritage. The Water Corporation is the responsibility of the Minister for Racing and Gaming Government Enterprises and Goldfields-Esperance.

The Office of Water Regulation is reviewing water service standards and looking at the desirability of establishing a water ombudsman.

Devolution

Progress report: Devolution of local management in the remaining irrigation schemes.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 3

Background

Western Australia is in the process of devolving local management for its irrigation schemes. The Council's 2001 NCP assessment noted that Western Australia is still working through the devolution process for the Ord Irrigation Scheme and the Carnarvon Irrigation Scheme.

In the Ord region, the Ord Irrigation Co-operative and the Water Corporation signed an asset management agreement, and the transfer of assets was planned to be completed by 30 June 2001. In the Carnarvon region, a memorandum of understanding outlining the devolution procedure was endorsed by the irrigators and signed in June 2000. Western Australia then expected to set up an interim operation and maintenance contract with

growers, allowing for their greater participation in the scheme's operation, before full ownership is transferred to the local irrigators.

Western Australian progress

In the Ord region, Stage 1 of devolution is being finalised with the Water Corporation agreeing to transfer to the Ord Irrigation Co-operative the Ord Irrigation Scheme (stage 1) distribution system. The Water Corporation will continue to supply the Co-operative with bulk water under a water supply agreement. The Co-operative 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 headworks, the M1 channel and the Hillside Levies.

The Carnarvon Irrigation Co-operative and the Water Corporation signed an operations management contract on August 2001, effective until October 2002. The Government plans to transfer the Carnarvon Irrigation Scheme to the irrigation Co-operative on 30 June 2002. The Co-operative will have responsibility for:

- *retail water service delivery to irrigators within its designated district;*
- *operations, maintenance and renewal of the pipe distribution system, service connections; and*
- *water resource management within its designated area including meter reading and measuring water quality. (Department of Treasury and Finance, Western Australia, 2002, p.40)*

Water trading

Progress report: The practical implementation of water trading

Next full assessment: The Council will assess intrastate trading arrangements in 2003 and interstate trading arrangements in 2004.

Reference: Water reform agreement, clause 5

Background

For the 2001 NCP assessment, Western Australia had passed amendments to the *Rights in Irrigation and Water Act 1914* to establish a framework for the transfer of water rights. Although the implementation of the Act's trading provisions was still in its early stages, the Council said that it would revisit the State's progress to ensure water's contribution to 'national income and

welfare' is maximised and any trade constraints are consistent with CoAG water reform commitments.

Western Australian progress

Western Australia reports that a fully operational system for water trading is in place. The new guidelines for water trading are formally established in the policy document *Transferable (Tradeable) Water Entitlements for Western Australia*. The Minister for Water Resources released this policy in 2001, following consideration of 31 submissions received as part of the public consultation period.

Western Australia has found that few management areas are fully allocated, so the demand for trading is low. The only significant area of water trading is the South West Irrigation Scheme where the licence take is 153.46 gigalitres, consisting of 68 gigalitres from the Harvey River and Logue Brook, 68 gigalitres from the Collie River and 17.46 gigalitres from the Drakes Brook and Samson Brook. Of this, temporary transfers were 8.881 gigalitres, 2.967 gigalitres were transferred with land sales, and the permanent transfers of water entitlements for 2001-02 were 0.275 gigalitres.

Attachment 1: Revised Groundwater Management Plans, Reports and Allocation Strategies

<i>Plan</i>	<i>Year</i>	<i>Last Report</i>	<i>Last action</i>	<i>Proposed action</i>
Goldfields Regional	1994	Under Review	Position paper completed (2001/02)	
South West Coastal Groundwater Management Review	1989	Deferred	Position assessed	To be incorporated in Kemerton Plan (2002/03)
Broome Subregional	1994	Deferred	Position assessed	Review 2004/05
Derby Local	1992	Review 2001/02	Position assessed	Review 2004/05
Exmouth Local	1999	Review 2002/03	Position assessed	Review 2006/07
Jurien Subregional	1995	Under review	Completed 2001/02	2 nd Review by 2009/10
Arrowsmith Subregional	1995	Under review	Completed 2001/02	2 nd Review by 2009/10
Gingin Subregional	1993	Under Review	Completed 2001/02	2 nd Review by 2009/10
Gnangara Groundwater Resources, Environmental. Review and Management Program	1986/92	Under Review	Section 46 review completed 2001/02	
Swan Subregional	1997	Under Review	Position assessed	Review 2004/05
Perth Northwest Corridor Groundwater Management Plan	1992	Deferred	Position assessed	Review 2002/03
Wanneroo Local	1993	Under Review	Under review	Review 2004/05
Rottnest Groundwater Management Review	1987	Deferred	Assessed as low priority	
Bolgart Groundwater Management Review	1990	Deferred	Assessed as low priority	
Cockburn Subregional	1993	Under Review	Completed 01/02	2 nd Review by 2009/10
Rockingham/Stake Hill Subregional	1988	Under Review	Completed 2000/01	2 nd Review by 2008/09

<i>Plan</i>	<i>Year</i>	<i>Last Report</i>	<i>Last action</i>	<i>Proposed action</i>
Jandakot Groundwater Review	1991	Deferred	Assessed as low priority	
Busselton-Capel Subregional	1995	Under Review	Position assessed	Review 2003/04
Bunbury Subregional	1994	Review 2002/03	Continuing review	To be incorporated in Kemerton Plan 2002/03
Collie Water Resource Management Strategy	1988	Under Review 2002/03	Continuing review	Review beginning 2002/03 for completion in 2004/05
Murray Subregional	1997	Under Review		Review 2002-03
Albany Local	1991	Under Review 2001/02	Strategy completed 2001/02	2 nd Review by 2009/10
Esperance Local Draft	1997	Under Review 2000/01	Completed 2001/02	2 nd Review by 2009/10
Bremer Bay Groundwater Protection	1995	Review 2001/02	Position assessed	Low priority
La Grange Subregional		Draft in Progress 2002/03	Position reviewed	To incorporate Kimberley Plan (2004/05)
Pilbara Regional		In progress 2001/02	Strategy undertaken	Strategy to be completed 2004/05
Kimberley Regional			See La Grange	
Carnarvon Local		In Progress 2001/02	In progress	To be completed 2002/03
Gascoyne Junction Interim Local		In Progress 2001/02	Position reviewed	Low priority
Marbellup Interim Local		In Progress 2001/02	Completed 2001/02	2 nd Review by 2009/10
Kemerton Local		In Progress 2001/02	Completed 2001/02	2 nd Review by 2009/10
Cape to Cape (Vasse) Subregion		In Progress 2001/02	Position reviewed	To be completed 2003/04
Bremer Bay local		In Progress 2001/02	Position reviewed	Low priority

<i>Plan</i>	<i>Year</i>	<i>Last Report</i>	<i>Last action</i>	<i>Proposed action</i>
SURFACE WATER ALLOCATION PLANS				
Harvey Basin Regional	1998	Completed 1999	Position reviewed	2 nd Review 2005/06
Perth-Bunbury Regional	1997		Position reviewed	Reviewed 2004/05
Ord River	1997	Draft Interim	Draft plan completed 2001/02	Final plan 2003/04
Murray		In Progress 2001/02	Position reviewed	Reviewed 2005/06

Source: Western Australian Government 2002 (unpublished)

Attachment 2: Progress against the State Water Quality Management Strategy

<i>State water quality management strategy</i>	<i>2001/02 scheduled work</i>	<i>2002/03 scheduled work</i>	<i>Comment</i>
Outline of policies – 1 A reference document – 2 Implementation guidelines - 3	Yes	Yes	Considered in preparing the State strategy (<i>May 2001</i>). NWQMS policies, guiding principles, strategies, references and the implementation guidelines are considered in ongoing actions to implement the State strategy.
Fresh and marine water quality – 4	Yes	Yes	Scheduled for completion in August 2002. Should issues arise from industry stakeholder consultation on May 2002 document, the likely latest completion date is December 2002.
Drinking water summary - 5 Drinking water guidelines - 6	Yes	Yes	To be completed after the release of a revised national drinking water framework. Other initiatives to support this module progressed include a state of planning policy for public drinking water areas and environment and natural resources, by-law reviews, a memorandum of understanding with the health department, and policy and water quality information documents. High priority has been given to agency coordination and use of planning laws to achieve water quality protection.
Monitoring and reporting - 7	Yes	Yes	Scheduled for completion in August 2002. Should issues arise from industry stakeholder consultation on May 2002 document, the likely latest completion date is December 2002.
Groundwater Protection - 8	Yes	No	Processes are well advanced in this area. A coordinating implementation plan is not considered necessary at this time. Specific processes are in place to cover the Gnangara and Jandakot areas. A policy level document for the protection of future drinking water source areas is under development by the Water and Rivers Commission and will be published in 2002–03.
Rural land uses - 9	Yes	No	An implementation plan may not be required. Rural land use issues addressed by this NWQMS guideline are covered in existing government approval processes. A review is planned in 2003–04 subject to progress of agreements on the National Action Plan for Salinity and Water Quality, the Natural Heritage Trust, and other resourcing issues.
Urban stormwater - 10	Yes	Yes	A review and update of the 1998 WA stormwater management guideline will occur in stages and finalised by the end of 2002–03.
Effluent management – 11	Yes	No	Effluent management issues are dealt with under Environmental Protection Act license conditions that already consider the NWQMS outcomes. Accordingly this plan is a low priority and the need for a plan

<i>State water quality management strategy</i>	<i>2001/02 scheduled work</i>	<i>2002/03 scheduled work</i>	<i>Comment</i>
			will be reconsidered in 2003–04.
Trade/industrial waste acceptance – 12	Yes	No	An implementation plan for this guideline was not started in 2001–02 due to other priorities associated with the current drought. Trade waste management processes already exist that consider the national strategy. Assessment of waste into the sewer is managed by the Water Corporation and is a low priority implementation plan.
Biosolids management - 13	No	No	A State guideline was prepared and released in February 2002 and considered the draft national guideline currently out for public comment.
Reclaimed water - 14	Yes	No	An implementation plan for this guideline was not started in 2001–02. A 'Water Summit' is planned for late 2002 on drought related issues and this may refocus attention on the use of reclaimed water to supplement water supply. Priorities may change if drought continues. Otherwise, it will be considered in 2003–04.
Sewerage overflows - 15	No	No	<i>Guidelines for the referral and assessment of sewage pumping stations</i> (completed November 2001) by the Department of Environmental Protection considered the draft national guideline.
Dairy sheds effluent - 16a	Yes	No	Not started in 2001–02 as a 1998 dairy farm effluent guideline exists. This guideline considered NWQMS outcomes. A review of the existing State guideline will be considered in 2003–04.
Dairy processing plant effluent - 16b	Yes	No	Dairy processing sheds are subject to licensing under the Environmental Protection Act. The licenses use NWQMS outcomes in setting conditions to protect water quality. A plan will be considered in 2003–04.
Intensive piggeries - 17	Yes	No	A 2000 guideline considered the national guideline in place.
Wool scouring and carbonising - 18	Yes	No	A plan is not proposed for this guideline as there is only one wool related industry subject to Environmental Protection Act licensing.
Tanning and related industry – 19	Yes	No	No guideline is proposed. Western Australia has a limited number of these industries. Significant premises are managed by Environmental Protection Act licences that address NWQMS outcomes.
Wineries and distilleries - 20	No	No	No implementation plan is proposed. A protection note and licensing guideline addresses water quality issues. Premises are licensed under the Environmental Protection Act consistent with NWQMS outcomes.

Source: Western Australia 2002 (unpublished)

6 South Australia

Outstanding assessment issues

Pricing and cost recovery

Outstanding issue: South Australia must ensure SA Water's dividend policy is consistent with CoAG commitments

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(a)

Background

In undertaking its 2001 NCP assessment, the National Competition Council recognised the sound financial performance of SA Water and commended efforts to improve service quality and efficiency. It was concerned, however, that the increasing proportion of profits being returned to the Government as dividends may limit future investment by the business. Retained earnings are a recognised and valid source of capital to achieve this goal.

SA Water paid dividends of \$175.2 million to the South Australian Government in 1999-2000, representing 124 per cent of profit after tax. The Water Services Association of Australia reported SA Water's 1999-2000 dividend payment as the highest relative to profits among the country's large metropolitan services.

South Australia confirmed that SA Water's dividend payments to the Government for 1999-2000 were 47 per cent of earnings before interest, tax, depreciation and amortisation (EBITDA). South Australia has since advised that an agreed contribution target rate (dividend and income tax equivalent) of 55 per cent of EBITDA (less stay in business capital) applies from 2001-02. The Council stated that it would review the matter in the future to ensure South Australia's dividend policy is consistent with the Council of Australian Government (CoAG) guidelines, which require that dividends where provided reflect 'commercial realities and simulate a competitive market outcome'.

South Australian arrangements

SA Water paid \$135.5 million to the South Australian Government for 2000-01, which equates to 95 per cent of after-tax profits. By basing dividend payments on EBITDA, SA Water's contribution to government (dividend plus income tax) from 2001-02 is based on cash flow rather than accounting profit.

South Australia states that a contribution rate of 55 per cent of EBITDA is determined by benchmarking against other government-owned Australian water utilities, and that the rate is at the upper end of contributions. South Australia has reported that the top rate for these organisations is 60 per cent. In further discussions with the Council, South Australia provided the following justifications for its dividend policy.

- The Minister and Cabinet determine SA Water's asset base in the context of relevant enabling legislation. The primary objective of section 3 of the *South Australian Water Corporation Act 1994* is:

To establish a statutory corporation as a business enterprise with the principle responsibility of providing water and sewerage services for the benefit of the people and economy of the State.

- The outcome of this objective could be to reduce or increase SA Water's asset base and/or levels of service.
- Unintended reductions (erosion) of the asset base should not occur if SA Water's capital expenditure program is subject to annual budgetary and other deliberations.
- The 'stay in business capital' is identified by SA Water which is taken into account in determining the contribution level and incorporated in budgetary advice to the Minister, Treasurer and Cabinet on contribution levels.
- The disposition of SA Water's cash flow is also considered in budgetary discussions with regard to a cash distribution guideline of 55 per cent of EBITDA less 'stay in business' capital.
- SA Water can fund changes in its asset base from cash provided as retained earnings, capital grants or interest-paying advances as approved by the Treasurer. Developer contributions also add to the asset base. A large proportion of SA Water's capital expenditure relates to upgrading of sewage treatment plants (an environmental improvement program). SA Water's asset replacement needs are quite low, and higher levels of replacement investment expenditure are not expected to be required for several decades.
- No Government funding through the Budget or any other external source is available for unapproved capital expenditure.

- South Australian arrangements have no stricture that total cash payments from SA Water to the Consolidated Account may not exceed 100 per cent of after-tax and/or pre-tax profits in some years.
- The concept of capital structure has little (if any) meaning for a statutory body whose borrowings are guaranteed by the Treasurer. The idea of a competitive capital structure for such a body is even more obscure. The 55 per cent EBITDA contribution distribution policy has been set in terms of a particular debt-to-assets ratio.

Discussion

The information provided in South Australia's 2002 NCP annual report was not sufficient for the Council to determine whether the CoAG commitment has been met. The Council sought further information from South Australia on how its method of calculating dividends meets the CoAG guideline. The two primary considerations are the impact of limited reserves being retained within SA Water for the provision of future investment from retained earnings, and the potential for erosion of the asset base of SA Water.

South Australia has paid very high levels of dividends in the past, often in excess of 100 per cent of after-tax profits. The change to South Australia's dividend policy in 2001, restricting contributions to 55 per cent of earnings before interest, tax, depreciation and amortisation has resulted in a reduction in dividend payments. In 2000-01, however, the dividends paid were still high at 95 per cent of after-tax profits.

South Australia argues that cash flow is used because it avoids complications of accounting adjustments, including prior year adjustments, changes in accounting policy, capitalisation issues and the problematic issue as to what constitutes true economic depreciation. If SA Water moves to a capital structure with a significantly higher debt level (and one that minimises its weighted average cost of capital), then 55 per cent of EBITDA would produce a dividend result much greater than 100 per cent of after-tax profits. South Australia notes that in that event the 55% guideline can be amended.

The water industry can be described as a low market growth sector which is dominated by well established, mature organisations. A characteristic of this environment is relatively minimal capital requirements to meet future market growth, and thus a reduced need for retained earnings. It could have high capital requirements, however, to maintain earnings growth, fund unexpected capital expenditure or major maintenance, or to run campaigns aimed at reducing water use, for example.

It would be reasonable to expect the water industry average for dividend payouts to be high relative to those of high growth, immature organisations, which often retain most earnings. The regular distribution of dividends of greater than 100 per cent of after-tax profits by any organisation would, however, be unreasonable.

Under corporations law, dividends may be paid out of profits only, not out of capital (s. 201). The purpose of this restriction is to protect creditors by maintaining the company's capital.

The Council considers that a reasonable upper bound for the dividend distribution policy of a government water service business is the corporations law requirement that dividends may be paid only out of profits. (Profits in this context include accumulated retained profits as well as the current year's profit.)

Not all water authorities are subject to corporations law, but the principles behind that law's approach to dividends are appropriate for them (given the requirement that dividends reflect commercial realities). The Council considers that the adoption of the limit in the corporations law would safeguard the authorities against being left with insufficient financial resources, which could undermine service quality. This approach would also help satisfy competitive neutrality principles.

The Council notes that the Queensland legislation covering government owned corporations provides a useful guide to dividend policy. Under that legislation, the level of dividend must not exceed profits after provision has been made for tax (or its equivalent), and any unrealised capital gains have been excluded. The Council sees merit in this approach.

Assessment

In some limited circumstances a dividend distribution that exceeds 100 per cent of the after tax profits of a statutory authority service provider may not have adverse consequences. It may be warranted, for example, by an authority wanting to move to a better capital structure by increasing its debt ratio. Such a move could minimise the authority's weighted average cost of capital and ensure that it complies with the CoAG competitive neutrality principles. SA Water's gearing ratio is low (at approximately 23 per cent), but South Australia has not indicated that its dividend policy is a means of moving to a more efficient capital structure.

Even if this were the intention, such an indirect approach can undermine the transparency of a government's financial arrangements. What are in fact capital transactions may, from the point of view of the community, appear to merely involve recurrent income transfers.

Overall, the Council has concerns about South Australia's dividend policy.

- Basing the policy on EBITDA may result in dividends in excess of 100 per cent of after tax profits being paid. This could have unintended impacts on the capital structure and financial resources of the business.
- The policy does not appear to be designed to address any objectives for SA Water's capital structure.

- South Australia currently does not have independent service quality regulation to protect water consumers from the potentially adverse consequences of a run down in financial viability, though this may change when the proposed Essential Services Commission comes to regulate standards.
- There is no independent price regulation in South Australia to ensure future capital expenditure needs are taken into account in price determination.

South Australia's approach runs the risk of running down assets, reducing financial viability and reducing service standards below minimum requirements.

The Council will be reviewing the dividend payment policies of all jurisdictions in 2003. At that time, it expects that South Australia will have in place appropriate safeguard mechanisms against the potential adverse effects of high dividend payout ratios.

Consumption-based pricing

Outstanding issue: South Australia is to show progress in introducing new arrangements for pricing commercial water, wastewater and trade waste

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

In the September 2000 NCP supplementary assessment, South Australia provided an undertaking to implement the following reform package for commercial prices.

- Free water allowances to be phased out over a five-year period (beginning 2002-03) to result in commercial customers facing the same use charge as applied to other customer groups.
- Free water allowances to effectively disappear in the first year, because water that was previously provided free would be priced at 20 per cent of the charge faced by other users.
- The impact of the reform was expected to be revenue neutral for the commercial sector as the level of property rate applied for access would be reduced to offset the increase in usage charges. The property-based access charge was likely to fall by approximately 25 per cent.

- Over half of the State's commercial customers could expect a reduction in their water bill, with the five-year phase-in period assisting those experiencing an increase to adjust to the change.
- An intention not to expand the use of property values beyond commercial water and wastewater charges.

In the 2001 NCP assessment, the Council identified the following issues to be assessed in the 2002 NCP assessment.

For commercial water, South Australia is continuing to implement the CoAG reform commitments consistent with the timetable in the supplementary NCP assessment of September 2000. The Council will continue, however, to monitor closely the implementation of these reforms.

For commercial wastewater, South Australia's finding that consumption-based wastewater charges are not cost-effective means that volumetric pricing is inappropriate. The Council remains concerned, however, that this has the potential to result in nontransparent cross-subsidies which are not consistent with CoAG commitments especially as property values remain as the basis for allocating costs among customers. The current pricing arrangements in South Australia therefore make the transparent consideration of the issue virtually impossible. The Council's concerns regarding the use of property values could be addressed through the establishment of a more open and transparent pricing-setting process. Possible options include establishing an independent price regulator and/or a public price-setting process, including submissions to the Government and a publicly available report.

For trade waste, the Council supports the removal of the discharge allowance provided by the exemption from charges below acceptance limits. Capping charges by discounting the fixed charge (based on property value) could be preferable, however, to discounts on the volumetric charge as proposed by South Australia. While this may decrease the certainty of revenues, it would avoid reducing the incentive to minimise the amount and toxicity of the waste discharged. It would also minimise any distortions arising from the use of property values. Overall, the Council considered the new trade waste arrangements represented a significant improvement on the existing system. South Australia advised that the charging structure and implementation program would be refined after consultation with industry.

Commercial water arrangements

South Australia has advised that the *Waterworks (Commercial Land Rating) Amendment Act 2001* was passed to remove free water allowances that apply to commercial customers. As expected, the change will be implemented on a revenue-neutral basis from 2002-03, with full water use charges for these customers to be phased in over five years.

The implementation timetable is provided in the legislation. A discount policy will be applied over the five years (80 per cent in year 1; 60 per cent in year 2; 40 per cent in year 3; 20 per cent in year 4; and 0 per cent in year 5). A letter was sent to all SA Water commercial customers in the first quarter 2002, explaining the effects of the change. Under the legislated transitional arrangements, a discount will apply to the water used up to the allowance for discounted water. The discount is applied to the basic water use prices that apply to all other customers in 2002-03.

Table 6.1: Commercial water use charge, 2002-2003

<i>Consumption (kilolitres)</i>	<i>Standard charge (cents per kilolitre)</i>	<i>80% discounted standard charge (cents per kilolitre)</i>
0-125	40	8
Above 125	97	19.4

Source: Government of South Australia (2002)

Commercial customers will face, on average, a 2 per cent increase in charges in year 1. At the end of five years, there will be a flat property-based charge and a much higher usage based charge.

Discussion and assessment

South Australia is continuing to implement the reforms envisaged in the supplementary NCP assessment of September 2000, consistent with the timetables developed in that assessment. It now has a legislated price path that will eliminate commercial free water allowances over a five-year period. In the absence of an independent process for reviewing prices, however, the Council will continue to monitor prices in South Australia, particularly those that contain components based on property values because there is a risk of nontransparent cross-subsidies.

While the Council is satisfied with South Australia's progress towards 2002 NCP commitments, the Council will re-assess progress with urban pricing reform in the 2003 NCP assessment.

Wastewater and trade waste arrangements

Arrangements to implement the new broader trade waste charges are well advanced (see box 6.1 for a list of the key aspects of the charges). Effective from 1 July 2002, the charges are subject to transitional arrangements, including phase-in discounts until 1 July 2006.

During 2001, South Australia consulted the major trade waste dischargers to whom the charges will be applied. The charges have since been incorporated in the conditions of the industrial trade waste discharge permits that are

being negotiated with the individual dischargers. Around 45 dischargers are involved.

The permits have a three-year term and therefore do not encompass the full implementation period. Full implementation will take effect during the term of subsequent permits. The trade waste charges are indexed for the second and third years of the current permit.

Box 6.1: Key aspects of the trade waste charging arrangements

The charges apply to category 3 trade waste dischargers only, which are defined as having annual discharges that exceed:

- 20 megalitres of flow per year; or
- 20 tonnes of biochemical oxygen demand per year; or
- 20 tonnes of suspended solids per year.

The charges are directly linked to total pollutant mass (as measured by biochemical oxygen demand and suspended solids) and volume discharged. The basic charges reflect the avoidable costs imposed by trade waste discharges. A 50 per cent surcharge on this rate applies for high concentration flows.

Property rates continue to apply to the dischargers, but a 50 per cent discount on trade waste charges is provided to the maximum value of one third of the property rate.

Source: Government of South Australia (2002)

South Australia reports that some dischargers have lowered their discharge levels as a result of this reform by undertaking a level of pretreatment. Others have exited the market. Permits incorporating the charges have been finalised for all dischargers.¹

Full implementation of the charges for all category 3 customers, based on predicted discharge levels, would raise \$3.6 million in 2002-03. Revenue collections from the new trade waste charges in 2002-03, however, are expected to be \$0.7 million. This is due to most dischargers receiving discounts as part of the phase-in arrangements, and two dischargers having pre-existing agreements with the Government that exempts them from payment of the new charges for the term of their agreements.

Discussion and assessment

South Australia is continuing to implement the reforms envisaged in the supplementary NCP assessment of September 2000 consistent with the timetables developed in that assessment. The Council continues to be concerned, however, that property values are being used as a basis for allocating costs among customers, albeit reducing in proportion to total cost.

¹ One minor discharger requires further negotiation with SA Water.

This process has the potential to result in nontransparent cross-subsidies that are not consistent with CoAG commitments.

As is the case for commercial water pricing, in the absence of an independent process for reviewing prices, the Council will continue to monitor prices in South Australia in future NCP assessments, particularly those that contain components based on property values due to the risk of nontransparent cross-subsidies. The establishment of a more open and transparent price setting process would address the Council's concerns regarding the use of property values. Possible options include establishing an independent price regulator and/or a public price-setting process, including submissions to the Government and a publicly available report. (For a more detailed comment, see the section on institutional reform).

The Council is satisfied that South Australia has made adequate progress to meet its 2002 wastewater and trade waste NCP commitments. For the reasons outlined above, however, the Council will re-assess charging arrangements in South Australia in the 2003 NCP assessment for urban pricing reform.

New rural schemes

Outstanding issue: Governments have agreed that all investments in new rural water schemes or extensions to existing schemes should be undertaken only after appraisal indicates that the scheme/extension is economically viable and ecologically sustainable.

The Council will consider evidence from South Australia to demonstrate the ecological sustainability of the Loxton rehabilitation project, the Lower Murray rehabilitation proposal, and proposals for the Barossa and Clare valleys following any final decision to proceed with these projects.

Next full assessment: The Council will examine government investments in the year in which the government decides to proceed with a new rural scheme, to ensure the twin tests of economic viability and ecological sustainability have been met.

Reference: Water reform agreement, clause 3(d)(iii).

Background

In the 2001 NCP assessment, the Council was satisfied that South Australia had met its commitments in relation to new investment. It found South Australia's appraisal processes to determine the economic viability and ecological sustainability of new investment met CoAG commitments.

However, in 2001, South Australia was considering two proposals (at various stages of development) for the supply of irrigation water to existing high value adding irrigation areas. It has continued to transfer the remaining two Government-owned irrigation areas to irrigation trusts managed by the irrigators. As part of the transfer process, each district's water supply infrastructure is refurbished.

At the time of the 2001 NCP assessment, the Council noted the Government's progress on the following four projects.

- *The Loxton rehabilitation project.* This project involved significant government financial contributions, with the Commonwealth and State each providing 40 per cent of the total cost. In 2001, the Council was satisfied the project met the economically viable criterion but received no evidence of the project's ecological sustainability. It sought this evidence for the 2002 NCP assessment.
- *The Lower Murray Reclaimed Irrigation Area rehabilitation project.* Work continued on both the economic viability and ecological sustainability aspects of proceeding with this investment. For the 2002 NCP assessment, the Council aimed to assess both the economic viability and ecological sustainability appraisals if this project proceeded.
- *Proposals to supply additional water to the Barossa and Clare valleys.* The Barossa project is a private sector venture, and did not involve a financial contribution from Government, so the Council was satisfied the proposals were economically viable. The water allocation plans for these regions considered a number of environmental impacts of these developments. For the 2002 NCP assessment, the Council requested any environmental impact statement for these projects.

For the 2002 NCP assessment, therefore, the Council sought further information and evidence to demonstrate the ecological sustainability of the Loxton rehabilitation project, the Lower Murray rehabilitation proposal and the proposals for the Barossa and Clare valleys, following any final decision to proceed with these projects.

South Australian arrangements

Loxton rehabilitation project

The Loxton Irrigation District is one of the last major irrigation areas to be converted to self-management. All formal approvals and processes were completed in 1998, including a floodplain health study as part of the assessment of the project's environmental sustainability. The details to establish the area as a private irrigation district were completed in December 2000, and formal handover occurred on 1 July 2001.

The floodplain health study, *Assessment of the Impact of the Loxton Irrigation District on Floodplain Health and Implications for Future Options*, was commissioned by the Local Action Planning Group for the Loxton Irrigation Advisory Board. PPK Environment & Infrastructure conducted the study, which considered the environmental impacts of the four options for rehabilitating the Loxton Irrigation Area as shown in Table 6.2.

Table 6.2: Rehabilitation options for the Loxton Irrigation Area

	<i>Ecological outcomes</i>
Option 1 (no rehabilitation)	Continuing degradation at base of cliffs (the main irrigation area), floodplain and Katarapko Island
Option 2 (partial rehabilitation)	Reduction of water at base of cliffs and potential for regeneration Little beneficial impact on rest of floodplain and Katarapko Island
Option 3 (full rehabilitation)	Reduction of water at base of cliffs and potential for regeneration
Option 4 (full rehabilitation and new development)	As for option 3, little or no impact on rest of floodplain Potentially large beneficial impact on basin vegetation on Katarapko Island Continuing regeneration

Source: PPK Environment & Infrastructure (1997)

Reducing the negative impact of irrigation on the surrounding environment of Loxton is a component of the Loxton rehabilitation program. The Loxton Rehabilitation Steering Committee is preparing a report on how the impact on the environment has changed as a result of upgrading the irrigation infrastructure. The Committee supported a Central Irrigation Trust proposal for a project to collect data on irrigator infrastructure and management practices. The data will be assessed against an earlier benchmark survey² on management practices, with the objective of establishing a set of complementary measures. These measures could include on-farm environmental management practices that are now possible as a result of the rehabilitation. Groundwater levels will be reported too, with monitoring wells having been installed over the time of the rehabilitation program.

Lower Murray rehabilitation project

In the Lower Murray Reclaimed Irrigation Area, the Government owns and operates nine of 24 irrigation schemes, covering a total 120 growers and representing 70 per cent of the irrigation area. The region has a dairy focus and is flood irrigated.

To help review options for the future management of the region, South Australia has appointed an Irrigation Advisory Board (drawn from irrigators) to provide advice. The board is appointed under the *Irrigation Act 1994* and reports to the Minister for the River Murray. The South Australian Water Policy Committee, in overseeing the privatisation of the Lower Murray Reclaimed Irrigation Area, appointed a Steering Committee. This Committee has worked with the Board, and undertaken studies. These studies included an assessment of the economic viability and environmental sustainability of flood irrigated dairying on the Lower Murray Swamps.

² Compiled by the Loxton/Bookpurnong Local Action Planning Group.

A funding study has just been completed, with the outcome to determine the option chosen for the rehabilitation of the Lower Murray Reclaimed Irrigation Area. (Note this report has not been publically released). The Government will consider a package of recommendations, including devolution options, before the end of 2002.

The project depends on the adoption of the River Murray Water Allocation Plan in July 2002. Under this plan, the area will be subject to new property rights arrangements. The plan will adjust volumetric allocations and result in new licences in 2002 in accordance with the Murray–Darling Basin Cap on diversions. The plan also covers the water requirements for environmental land management, conversion of ‘opportunity licences’, water trading rules, the introduction of metering, penalties for exceeding allocations, and links to the timing of rehabilitation and self-management.

Barossa project

Barossa Infrastructure Limited is a consortium of several large wine companies and grape growers. The consortium obtained development approval in November 2001 and has completed construction of a 240 kilometre, privately funded pipeline to distribute River Murray water throughout the Barossa. The pipeline will provide River Murray water to the region for economic development. The project aims to deliver to the Barossa region some 5000 – 7000 megalitres per year. The water will be purchased from the River Murray tradeable water rights market and delivered to the pipeline via SA Water infrastructure. The consortium has a water licence and has applied for an allocation to divert water from the River Murray, in accordance with the requirements of the *Water Resources Act 1997*.

All customers of the pipeline will be required to obtain a permit to use water in the Barossa in accordance with the Northern Adelaide and Barossa Board’s Catchment Water Management Plan. The permit will apply monitoring and reporting requirements to all users of water from the scheme.

The consortium commissioned an environmental assessment review for the project to assess issues associated with importing water into the Barossa. These issues included the impacts on regional groundwater tables, the effects on the salt budget and the creation of perched water tables. The report found that any adverse effects could be minimised or avoided with efficient irrigation practices. The South Australian Department of Water Resources provided input into the review and negotiated with the consortium on monitoring and reporting requirements for the operation of the project.

In October 2001, the then Minister for Water Resources and Barossa Infrastructure Limited signed a deed of agreement. The deed requires the consortium to install 14 groundwater monitoring wells at selected locations throughout the Barossa, to construct a surface water monitoring station along Greenock Creek and to upgrade existing surface water monitoring stations at Mingays Water Hole on the Light River. The consortium is required also to pay annual fees for the operation of the monitoring sites.

Clare Valley project

This project has yet to proceed. South Australia has advised that a decision to proceed on this project will not occur before August 2002. As with the Barossa project, the Clare Valley involves the purchase of allocations from the River Murray, with the water being pumped via a pipeline to the area. The project involves the interconnection of two existing SA Water pipe networks, with the additional benefit of an increased security of supply to rural areas through some redundancy in the pipe network.

Discussion and assessment

In relation to the Loxton rehabilitation project, the Council was provided with three reports: *Groundwater Modelling of Irrigation Management Options*, *Groundwater Modelling of Groundwater/River Interaction and Assessment of the Impact of the Loxton Irrigation District on Floodplain Health and Implications for Future Options*. These reports consider the future impacts on groundwater levels, salt loads to the river, and induced discharge to the degraded river floodplain of future management options for the Loxton Irrigation Area. The reports recommend that if irrigation efficiencies can be improved by 80 per cent, then the salt loads can be reduced by 50 per cent. The Council notes that the draft River Murray Water Allocation Plan sets water efficiency targets of 85 per cent for the region, which is in accordance with these studies. The Council is satisfied these studies demonstrate that South Australia has met commitments to ensure the ecological sustainability of the rehabilitation project.

A decision to proceed on the Lower Murray rehabilitation project has yet to occur. Based on the end-of-2002 timeframe for a decision, this issue (including appraisal of both the economic viability and ecological sustainability of the project), will be a 2003 assessment item if the project proceeds.

In relation to the Barossa Infrastructure project, no new water allocations have been created to supply the consortium users. Instead, allocations will be purchased from the trading market to ensure the proposal is consistent with all necessary management plans for the Murray–Darling Basin. South Australia briefed the Council on the environmental aspects of the pipeline proposal. The initial project did raise some environmental issues, but the consortium has addressed these matters. The Council's considers that the project complies with the CoAG commitment for ecological sustainability.

A decision to proceed with the Clare Valley project has yet to occur. If the project proceeds, then the Council will assess the ecological sustainability of the project in the 2003 NCP assessment.

Provision for the environment

Outstanding issue: The Council will report on South Australia's progress, including the outcomes of the Stressed Resources Assessment Review, to examine the current knowledge of environmental water needs and definitions of stress.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

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

Background

In 2001, South Australia identified a need to improve knowledge of environmental water needs and definitions of stress. As called for by the State Water Plan 2000, a stressed resources assessment review was to be conducted, with the outcomes being used to advise the Government on how to identify water resources under stress (or at risk of stress) and how to respond appropriately. This review was expected to occur in late 2001. The Council undertook to report on developments in South Australia's progress, including the stressed resources assessment review, in the 2002 NCP assessment.

South Australia's approach in this area is different from the approach taken in the eastern States. Because South Australia's systems generally are unregulated systems or groundwater, volumetric allocations are considered to be inappropriate; instead, licence conditions are set to control how and when people use water. South Australia has a policy of establishing water for the environment through legally binding mechanisms established by water allocation plans once a resource is prescribed.³

Catchment water management plans deal with the environmental water needs of stressed river systems in unprescribed areas. Management actions described in the plan may allow for the control of dam construction through permit conditions. If monitoring shows tighter controls are needed, then the resource may be prescribed.

³ Previous NCP assessments outlined the process of prescription. In brief, prescribing a water source under the Water Resources Act regulates the amount of water that a licensee can take from a water source. This is necessary to ensure water is allocated so it can meet the reasonably foreseeable future water needs of users while also protecting the environment. Once a resource is prescribed, any person seeking to extract water requires a licence. The relevant catchment management board develops a water allocation plan to establish the conditions that the Minister attaches to licences.

South Australian arrangements

Stressed resources assessment review

The nature of the relationships between hydrology and ecology is especially unclear in temporary and ephemeral streams, which are a predominant feature of South Australia. Water-dependent ecosystems in South Australia rely either on seasonal wetting from larger rivers (the River Murray for example), ephemeral streams or shallow groundwater systems. Little information is available on the latter two sorts of systems, which comprise the majority of water-dependent ecosystems.

South Australia has, to date, 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. In the River Murray and some groundwater systems, state-type indicators such as salinity and water level have also been used to identify resources under stress. A response based on pressure indicators is considered to be proactive.

South Australia has recognised that the science to define the level of stress in a water resource requires investigation and that rivers may be stressed by a variety of 'stressors' such as overextraction or water quality. The stressed assessment review will account for a range of ecological and hydrological factors, with water extraction being important but not the only factor in evaluating if resources are 'stressed'. South Australia's approach is to address each element that makes up aquatic ecosystems rather than water quantity alone.

The stressed resources assessment review has received funding for 2002-03 and will be used to determine a common method for defining stress. At the time of writing, the project was about to get under way. The review will help determine the requirements for monitoring across the state. A 12-month timeframe has been allocated for the review and the outcomes will be considered when the current water management plans are reviewed, with first reviews expected to begin in 18 months.

Other developments

The Ministers for Water Resources, and Environment and Heritage jointly launched a draft Wetlands Strategy for South Australia, as called for by the State Water Plan 2000, in January 2002. The development of other strategies and action plans identified in the State Water Plan is now the focus of attention, with the Department for Water Resources forming a strategic link in leading these interdepartmental teams.

In 2002, a new Department of Water, Land and Biodiversity Conservation was created in the portfolio of Environment and Conservation. This agency

now has prime responsibility for water resources management including operation of the Water Resources Act. The Department of Water, Land and Biodiversity Conservation heads a Water for the Environment Coordinating Committee, which is developing a Water for the Environment Strategic Plan for South Australia. This plan will address the roles, responsibilities, research, monitoring, and communication needs of the extensive programs under way across the State. It will lead to a greater integration of effort and the generation of strategic knowledge.

South Australia is continuing to improve its knowledge of environmental water requirements. The following new investigations and research activities commenced after June 2001.

- The Onkaparinga River studies include the research project on environmental water provisions, as outlined in the Onkaparinga Catchment Water Management Plan. The first stage (to determine environmental water requirements) is to be completed by September 2002, followed by a three-month period to turn the science into considered policy outcomes (to determine environmental water provisions).
- Environmental flow projects for the River Murray include fish passage through the Barrages, weir manipulation for enhanced watering of wetlands, the Lower Lakes and Coorong Water Management Study, the Murray Mouth Sediment Modelling Project, the Lower Murray Scientific Panel Study, and the Barrages Environmental Flow Scientific Panel Study.
- The South-East studies include wetlands waterlink projects (to provide habitat corridors between wetlands), the grazing impacts on wetlands, the impact of groundwater drains on seasonal wetlands, and a hydrological assessment of south-east swamps.

Draft water allocation plan for the River Murray

In October 2001, the River Murray Catchment Water Management Board released the draft water allocation plan for the River Murray prescribed watercourse. The plan sets a total volume of River Murray water that may be allocated each year. Specific volumes are defined for particular uses pursuant to South Australia's compliance with the Murray–Darling Basin Ministerial cap.

The plan proposes up to 200 gigalitres each year for wetland management purposes. Wetlands play a critical role in maintaining water quality and improving the biological health of the River Murray. There are more than 1100 wetlands along the River Murray valley and over half of these are considered to be of high conservation value. The principal wetlands of conservation significance in South Australia are the Coorong, Lake

Alexandrina and Lake Albert wetlands. The Chowilla wetland is listed on the Ramsar register as a wetland of international significance.⁴

The water allocation plan provides for water to be allocated among wetlands and includes criteria that control how the water can be used. Any management activities that alter flows to or from a wetland will be subject to a wetland management licence. Salinity effects, water use, flow alterations and overall benefits to wetland health will be assessed during the licensing process.

Water shall be allocated for wetland management only if its use will have, or is likely to have, environmental benefits. These benefits could include the reintroduction of a wetting and drying regime, increases in native flora and fauna, improvements in water quality, improvements in the habitat for native fauna, the mitigation of any threatened species, improved connectivity between the river and floodplain, the promotion of nutrient exchange and the extension of the duration of wetland inundation.

The plan sets a target to increase median flows for South Australia's portion of the River Murray. The current median flow of the River Murray is 4850 gegalitres per year, or 38 per cent of natural median. The median flow target of 7025 gegalitres over the life of the plan would improve the flow to 55 per cent natural median and enhance river health.⁵

The draft water allocation plan also allocates an additional 22.2 gegalitres per year for environmental land management in the Lower Murray Reclaimed Irrigation Areas. The purpose of this allocation is to minimise the effects of rising saline groundwater.

The water allocation plan is scheduled to be finalised in July 2002.

In addition to the draft water allocation plan, in April 2002 South Australia and Victoria agreed to establish a \$25 million joint fund to improve the environmental health of the River Murray. The aim of the fund is to achieve an additional 30 gegalitres of environmental flows for the river. South Australia has committed to provide \$10 million to the fund by 1 July 2005.

Discussion and assessment

The Water for the Environment Strategic Plan has yet to be developed and the stressed resources assessment review has only now commenced. South

⁴ The Ramsar wetlands are those listed under the 1971 Convention on Wetlands as wetlands of international importance.

⁵ The Council notes that achievement of these targets may require actions from other Murray–Darling Basin States, because the proportions exceed South Australia's allocation under the Murray–Darling Basin cap.

Australia has advised that the strategic plan will include a research and development plan, a communications strategy and a monitoring and assessment component. The stressed resources assessment review will be conducted over the next 12 months and the findings will be used for reviewing the compliance of water management plans in 18 months. South Australia has advised that the stressed resources assessment review is unrelated but complementary to the proposed strategic plan.

The Council has taken into account the development of the draft water allocation plan for the River Murray. Finalisation of this plan in July 2002 will complete South Australia's implementation program to establish water allocation plans. Fourteen of the original fifteen water allocation plans were complete in January 2002, with only the River Murray plan remaining.

The Council continues to be satisfied that South Australia is making satisfactory progress and has met NCP commitments for this assessment. The stressed resources assessment review will set the basis for developing South Australia's approach to finding appropriate management responses to stressors. The Council will review the State's stressed resources approach as part of the 2004 NCP assessment of provision of water for the environment.

Compliance with principle 5

Outstanding issue: South Australia needs to show further developments on compliance with principle 5 of the national principles for the provision of water for ecosystems. Where environmental water requirements cannot be met due to existing uses, the State needs to take action (including re-allocation) to meet environmental needs.

In 2001, the Marne and Inman river systems were considered to be stressed, requiring action to re-allocate water to the environment. The Council will report on developments and reassess this principle in 2002.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

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

Background

At the time of the 2001 NCP assessment, evidence indicated that the Marne River in the Mount Lofty Ranges and the Inman River on the Fleurieu Peninsula could be considered to be stressed. The Marne River⁶ and potentially other river systems in the eastern Mount Lofty Ranges have become stressed by high levels of water extraction in localised areas. The Inman River has been identified as stressed in terms of water quality (see the section on environment and water quality).

⁶ The Marne River in the Adelaide Hills flows into the River Murray.

CoAG commitments required allocations to the environment in stressed and overallocated rivers by June 2001. The Council considered that action to re-allocate water to the environment should occur by 2002, given South Australia's approach to stressed systems, together with information becoming available on the allocation status of the Marne and Inman river systems. The 2001 NCP report called for a reassessment against this CoAG principle in 2002.

South Australian arrangements

The Water Resources Act provides an established process for managing stressed water resources. This includes a range of tools, from moratoriums on increased water use, consultation with the community when potentially stressed and developing areas are identified (to determine the most appropriate management tools) and the prescription of areas. South Australia has an ongoing process for monitoring and assessing water resources to identify stressed resources.

This process is demonstrated by the prescription of the Tintinara Coonalpyn Prescribed Wells Area and Morambro Creek Prescribed Watercourse and Prescribed Surface Water Area (in the Upper South East). The water allocation plans being prepared for these areas will protect water-dependent ecosystems and better manage these water resources.

Prescription is also proposed for the Great Artesian Basin, water resources in the Baroota area, and the Marne River, the North Rhine River and Saunders Creek in the eastern Mount Lofty Ranges. The Minister for Environment and Conservation is consulting with the community to identify the best method to achieve improved water resources management in these areas. Presuming these areas are prescribed, water allocation plans will then be prepared for these resources.

In relation to the Marne river, South Australia has advised that the River Murray Catchment Management Water Board is undertaking a research project looking at science and use information to determine the river's environmental water requirements, as well as other eastern Mount Lofty Ranges watercourses. The method applied to the Onkaparinga River, a Mount Lofty system, could be applied to other rivers in the Mt Lofty Ranges. Application would not be appropriate for the Marne River, however, because it is more seasonal than the Onkaparinga River.

The Minister has declared an intention to prescribe the Marne River and Saunders Creek as a result of concerns about sustainability. The department is undertaking a round of public consultation — due to end in May 2002 but extended — on the need for prescription to set legally binding mechanisms to provide water for the environment in accordance with a water allocation plan. Prescription requires the preparation of a water allocation plan that provides for environmental water requirements. Such a plan takes at least two years

from when a resource is prescribed. Prescribing the Marne River for water extraction stress will result in a metering program for the system.

A notice of restriction on water use in the Saunders Creek has been applied.⁷ The River Murray Water Catchment Management Board is also considering prescription for other systems in the eastern Mount Lofty Ranges including the Angas, Bremer, Finnis and Currency Creek systems.

Finally, the draft water allocation plan for the River Murray prescribed water course, once finalised, will be a statutory document under the Water Resources Act. The draft plan seeks to ensure that the water resources of the River Murray prescribed watercourse are allocated and managed in a sustainable manner. It has significant implications for users of River Murray water, particularly irrigators. Irrigators will be required to achieve water use efficiencies of 85 per cent for the Angas–Bremer and River Murray irrigation management zones (by 2003 and 2005 respectively), and 65 per cent for the Lower Murray Reclaimed Areas Irrigation Management Zone (by 2007). Existing water licences will be assessed and re-issued to ensure they comply with the water allocation plan. The plan focuses on irrigator accountability as the single largest group of users. Irrigators will be required to produce an annual report that demonstrates how their licence conditions are being met. The water allocation plan will also give effect to key salinity management policies.

Discussion and assessment

South Australia's decision to prescribe the Marne River and Saunders Creek areas follows investigations that indicate that development and use of these catchments have reached the point where their ability to meet the reasonably foreseeable needs of all water users (including the environment) are at risk.

South Australia provided the Council with a sample letter to landholders in the region, advising of the need for prescription, as well as a series of public information sheets on the prescription proposal. This material shows that farm dam volumes in the region doubled between 1991 and 1999 resulting in median annual surface water runoff being reduced by 24 per cent. This change has resulted in a reduction in the duration of low and medium flow events that are crucial for supporting downstream ecosystems.

The process of prescribing the Marne River and potentially other eastern Mount Lofty catchments will result in the development of water allocation plans for these systems. The Council considers that the Marne River and any

⁷ The notice of restriction means the existing users of water can continue to operate at current levels of development, but no further or new development requiring additional water should take place. Existing water users will be issued with authorisations to take water, following a detailed assessment of the current level of development.

other eastern Mount Lofty system that will be prescribed are additions to South Australia's implementation program, so the Council will assess the water allocation plans for these systems as they are completed.

Environment and water quality: Integrated catchment management

Outstanding issue: South Australia should show developments in integrated catchment management, including the development of catchment water management plans. In 2001, South Australia provided a two-year timetable for the completion of eight catchment water management plans to cover 95 per cent of South Australia. The Council will examine progress against this timetable in 2002 and 2003.

Next full assessment: The Council will assess integrated catchment management reforms in detail in 2003. At that time, the Council will expect the reforms planned in 2001 to have been implemented and any outstanding issues to be resolved.

Reference: Water reform agreement, clauses 6(a–b) and 8(b–c)

Background

In 2001, the Council found that South Australia was well advanced in the development of catchment water management plans by catchment management boards in the areas surrounding Adelaide. It noted, however, the seemingly slow planning and implementation for catchment management in areas further away. South Australia has advised that the initial focus of catchment water management boards was the preparation of water allocation plans. With these plans now endorsed, the boards are now completing their catchment water management plans. South Australia provided a timetable for the development of the remaining plans, and the Council undertook to assess progress against this timetable in the 2002 and 2003 NCP assessments.

South Australian arrangements

Catchment water management plans

There are eight catchment water management boards. Two of these, namely the Northern Adelaide and Barossa and the Onkaparinga, had their plans adopted during 2001–02. The Torrens and Patawalonga catchment water management plans were adopted in June 2002, and the River Murray catchment water management plan, currently in draft form, is expected to be in place by December 2002. The River Murray plan will support the implementation of South Australia's River Murray Salinity Strategy and be consistent with South Australia's commitments to the Murray–Darling Basin salinity management strategy.

The remaining three boards are still compiling the research necessary to develop comprehensive plans. The South East Catchment Water Management Plan is likely to be completed by early 2003.

The Water Resources Act requires the South Australian Water Resources Council to develop a report on the implementation of the State Water Plan 2000. This will include the development of catchment water management plans. A consistent report card framework has been developed for the review of these plans, and it is being trialled as part of the reporting process. The Water Resources Council will make recommendations to the Minister based on the outcomes of the reviews. This is the first review of the implementation of the plans since the passage of the Water Resources Act.

A new vision for integrated catchment management

The Integrated Natural Resource Management Bill reported in the 2001 NCP assessment has been withdrawn, and the new Government is considering new arrangements for integrated catchment management. The broad vision is to ensure integrated natural resource management is based on the development of water catchment areas and the continuation of 'skill-based boards'. The aim is to bring together:

- water management and allocation plans;
- soil conservation and management issues;
- animal and plant control matters;
- the development and implementation of native vegetation, re-vegetation and biodiversity plans;
- the establishment of, and support for, Friends of Catchment groups; and
- salinity management.

South Australia is committed to establishing a catchment-wide consultation process involving all stakeholders to alleviate land use conflicts. The long-term goals are to maintain the ecological sustainability of each of the State's bioregions and provide certainty of access to all resource users.

A Central Natural Resources Committee will coordinate the individual local boards. The central committee will facilitate adherence to Statewide goals and plans, efficient management of intercatchment issues, access to expertise, reduced overlap and streamlined programs.

Assessment

Since June 2001, South Australia has made some progress in developing catchment water management plans. It is on track to have all plans completed by mid-2003.

The Council is satisfied that South Australia is on track with the 2001 NCP timetable for developing catchment water management plans, and that it has met the outstanding commitment for this assessment. The Council is mindful that South Australia signed an intergovernmental partnership agreement with the Commonwealth to implement integrated catchment management reforms in priority catchments as part of the National Action Plan on Salinity and Water Quality. The Council will assess all integrated catchment management arrangements for all States in the 2003 NCP assessment.

Environment and water quality: National Water Quality Management Strategy

Outstanding issue: South Australia is to finalise the environmental protection (water quality) policy.

Next full assessment: The Council will assess implementation of the national strategy in 2003.

Reference: Water reform agreement, clause 8(b) and (d)

Background

The State Water Plan 2000 called for the South Australian Government to establish a consistent Statewide approach to the determination of environmental values and protection of water quality across all South Australian waterbodies during 2000-01. This action was to entail the completion of an environment protection (water quality) policy.

In 2001, South Australia released a draft environmental protection (water quality) policy to implement the policies and principles that comprise the intergovernmental National Water Quality Management Strategy. The policy is to apply to all South Australian waters and will provide a consistent framework for protecting water quality across all water bodies, including better use of wastewater by waste avoidance or elimination, minimisation, recycling, waste treatment to reduce degrading impacts, and disposal.

In 2001, the Council found South Australia showed an ongoing commitment to a coordinated approach to water quality management, including the implementation of the National Water Quality Management Strategy. The Council was concerned, however, about the slow pace of finalisation of the draft environment protection (water quality) policy to implement the national

strategy. The Council undertook to reassess this issue in the 2002 NCP assessment and expected the draft policy to be implemented in the meantime.

South Australian arrangements

South Australia has advised that development of the environment protection (water quality) policy has taken longer than anticipated because a large number of submissions were received during the extensive consultation period required under the Environment Protection Act. Changes made as a result of the submissions received must be subject to a further round of consultation with bodies prescribed by this Act.

When approved, the policy will become subordinate legislation under the *Environment Protection Act 1993* and will enhance the implementation of the National Water Quality Management Strategy in South Australia. When it comes into effect, the policy will be a key regulatory instrument in South Australia for the protection of water quality in surface water and groundwater. It will ensure all industries, irrespective of scale, operate under uniform water quality conditions.

The State Water Monitoring Coordinating Committee produced a report, *Roles, Responsibilities and Framework for Water Monitoring in South Australia* that agencies have endorsed. This has resulted in the development of an integrated monitoring network between the Department for Water Resources, the Environment Protection Authority, SA Water and the catchment water management boards, which is used to assess the health of water-dependent ecosystems.

In relation to the Inman River, South Australia confirmed the river is stressed in terms of water quality as a result of the discharge of a sewerage treatment works upstream of the mouth at Victor Harbour. A river management plan for the Inman River has been prepared, and SA Water is addressing water quality concerns through an upgrade of the Victor Harbour sewerage treatment works.

SA Water is involved with an Environmental Improvement Program across its wastewater treatment plant network. The wastewater treatment plant for Victor Harbour is currently located on the Inman River. SA Water has undertaken extensive community consultation on the location and type of treatment, as well as the potential re-use options for treated water for irrigation schemes. The need for consultation to ensure community support for the outcome has delayed the implementation of the project. The new plant will no longer discharge into the Inman River, resulting in improvements in water quality in the river. A tender for the construction and operation of the plant has been prepared.

The Environment Protection Agency prepared a report, *The State of Health of the Mount Lofty Ranges Catchments: from a Water Quality Perspective*, which lists initiatives to reduce the risks to water supply. As a result the Mount

Lofty Ranges Watershed Protection Office was formed and funded to oversee the initiatives.

Discussion

In June 2001, the Council was concerned at the slow pace of finalisation of the draft environmental protection (water quality) policy to implement the National Water Quality Management Strategy. The last advice from South Australia in June 2001 was that the Environment Protection Authority was following a statutory process in finalising the policy. Public consultation closed in March 2001 and there was to be two months of agency consultation to review the policy after amendments were made to reflect comments received from public consultation. The policy was to be completed by the end of 2001 before endorsement by the Government.

The Council expected the draft environment protection (water quality) policy to be implemented by June 2002. South Australia is one of the last jurisdictions to adopt this reform. Development of the policy has taken longer than anticipated because a large number of submissions were received during consultation under the Environment Protection Act. Changes made as a result of submissions must be subject to a further round of consultation with bodies prescribed by the Act.

In May 2002, South Australia provided the Council with a timetable (as shown in table 6.3 below) for the completion of the environment protection (water quality) policy. Upon finalisation of the policy, the next stage is the development of modules to implement specific National Water Quality Management Strategy guidelines for freshwater and marine water quality, drinking water, and water quality monitoring and reporting. Draft modules have been developed and government consultation is complete, so the next step is for the drafts to be released for consultation with bodies prescribed under the Environment Protection Act, government agencies, local government and statutory authorities.

Table 6.3: South Australia's timetable to complete the environment protection (water quality) policy

<i>Stage</i>	<i>Anticipated timeframe</i>
Release documents for three months consultation.	Completed
Holding a public hearing.	Completed
Assess submissions and develop any proposed amendments to the draft policy.	Completed
Refer proposed amendments to the policy to the Environment Protection Authority for approval to consult.	Completed
Have Parliamentary Counsel redraft policy in consultation with the Environment Protection Authority ⁸ for consultation.	February–June 2002
Consult on proposed amendments with prescribed bodies and relevant government agencies, local government and statutory authorities.	July–September 2002
Have Parliamentary Counsel amend the policy. Have the Environment Protection Authority review amendments as satisfactory and resolve any issues with Parliamentary Counsel as necessary.	October – November 2002
Prepare a draft report from the Environment Protection Authority to the Minister. Refer the Report and draft policy to the authority for its approval.	November 2002 meeting of the Environment Protection Authority
Refer Environment Protection Authority's report and draft policy to the Minister for approval.	December 2002
Following Minister's approval, refer approved policy for the Governor's authorisation and gazettal.	December 2002

Source: Government of South Australia (2002, unpublished)

Assessment

South Australia has not met the outstanding commitment and has made little progress. The Council, however, accepts the Government's reasons for the delay in implementing the reform for this assessment, including the need for full consultation. The environmental protection (water quality) policy will be a significant reform when finally in place. It will apply to all South Australian waters and provide a consistent framework for protecting water quality across the State.

⁸ **The Environment Protection Authority became an independent agency from 1 July 2002 within the Environment and Conservation portfolio. The EPA is responsible for environment protection (water quality) policy.**

The Council notes, nevertheless, that governments first agreed on the policies of the National Water Quality Management Strategy for freshwater and marine water quality in 1992. South Australia is one of the last States to implement reform requirements in this area. It has recognised this delay and committed to a timetable for implementing the policy.

The Council will next assess compliance by all States with the National Water Quality Management Strategy guidelines in the 2003 NCP assessment. In 2003, it will assess South Australia's compliance against the timetable and expects the Government to have released 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 development of a new treatment plant should address the water quality concerns for the Inman River. If the environmental protection (water quality) policy is not in place for the 2003 NCP assessment, then the Council will need to take this aspect of noncompliance into account in its NCP payments recommendations.

Public consultation

Outstanding issue: The Council noted continued concerns with the level of transparency in water pricing and recommended that this issue be examined in future NCP assessments.

Next full assessment: For all future assessments, the Council will examine public consultation and education measures for the reform priority that falls due for assessment in that year. The Council will therefore re-examine the adequacy of consultation measures relating to urban pricing in 2003.

Reference: Water reform agreement, clauses 7(a–e)

Background

The Council has longstanding concerns about whether in South Australia price setting is sufficiently separated from service provision and whether the process of setting prices is sufficient transparent and consultative. The separation of price regulation from service provision is discussed in the progress report on institutional reform. The water agreements specifically refer to the need for consultation on urban and rural pricing reforms.

As noted under institutional reform, South Australia can meet its CoAG commitments if an independent body reviews price issues and publicly releases its report, and if the government responds to that report and presents reasons for any decision to adopt an approach divergent from the report's recommendations. Such a process would ensure transparency of the decision-making process.

South Australian arrangements

While the new South Australian Government was elected on a platform of establishing an Essential Services Commission (ESC) as an independent regulator for electricity, gas and water, the regulatory approach for water has not been finalised.

Pricing policy has not changed over the past twelve months, although two pricing determinations have been made. Water prices for 2002-03 were gazetted on 7 December 2001. Sewerage prices for 2001-02 were gazetted June 2001 and sewerage prices for 2002-03 will be gazetted before the end of June 2002.

Discussion and assessment

South Australia still has not addressed the issues of price-setting transparency and consultation that were discussed in the Council's 2001 NCP assessment. While establishing independent regulation would potentially resolve this problem, the Council has no details on how this regulatory structure will operate, when it will be implemented or whether alternative mechanisms will be developed to address water pricing issues. Given the government has committed to considering this issue further, the Council does not consider that the issue has NCP payments implications for 2002. The Council will re-assess this issue in 2003, in conjunction with its assessment of institutional reform.

The South Australian government has gazetted some price changes to apply for 2002-03, but they flow from the implementation of pricing policies discussed in the 2001 NCP assessment. They do not, therefore, raise any new NCP assessment issues.

Given the Council's ongoing concerns about the institutional arrangements in South Australia, it will continue to monitor these issues closely in future NCP assessments.

Progress report issues

Urban full cost recovery: externalities

Progress report: Developments in factoring externalities into pricing by urban service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Background and South Australian progress

South Australia reports that water prices reflect environmental externalities in two ways.

- Water prices internalise catchment management charges by incorporation into the total revenue target that the two-part tariff is designed to raise. SA Water incurs a River Murray levy of 1 cent per kilolitre that is directed to funding projects overseen by the River Murray Catchment Water Management Board. SA Water also makes payments to other catchment water management boards. All of these payments effectively internalise \$2.7 million in environmental costs within SA Water's cost structure.
- South Australia argues that water use charges provide a pricing signal that more than compensates for environmental externalities.

The December 1999 green paper *Water Pricing in South Australia: A Discussion Paper* implied that a cost-reflective water use price may be around 65 cents per kilolitre. This price includes some (unspecified) allowance for environmental externalities. The review of water pricing argued that the long-run marginal cost of water for virtually all South Australian urban water supply systems, and certainly for those supplying the vast majority of customers, was well below the upper tier water use price (92 cents per kilolitre for supply above 125 kilolitres per year, at the time of the study). South Australia claims that the difference between the upper tier water price and long-run marginal cost is so large that the pricing signal at the margin more than compensates for environmental externalities.

The Council notes that South Australia, while it may have covered externalities in the costs of water and wastewater services, has no mechanism for transparently accounting and reporting for these externalities in setting prices.

Further, South Australia does not consider the Department of Water, Land and Biodiversity Conservation costs of managing water, or dealing with the environmental costs of urban or rural water use, as part of water pricing. The CoAG guidelines for achieving full cost recovery require prices to include environmental costs, and this will be an assessable issue in the 2003 NCP assessment.

Environmental levy

South Australia's annual sewerage charge incorporates a specific levy for environmental works. Set at 10 per cent, the levy was established to fund SA Water sewerage projects that enhance the environment. The levy has been increased to 11.5 per cent. Of this, a specific environmental levy of 1.5 per cent goes to the Department of Environment and Heritage. The remaining 10 per cent is directed to a range of SA Water projects involving wastewater

collection, treatment and disposal projects that have a beneficial impact on the environment.

Full cost recovery: tax equivalent regimes

Progress report: Developments in implementing tax equivalent regimes for metropolitan service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on tax equivalent regimes

Background and South Australian progress

South Australia reports the only change in the tax equivalent regime since the 2001 NCP assessment is the adoption of the national tax equivalent regime. SA Water is still subject to all State taxes (such as payroll tax), and local government rates equivalents. Tax equivalent regimes are applied on pre-tax returns, and are captured in the dividend rate of 55 per cent of earnings before interest, tax, depreciation and amortisation. Table 6.4 shows the tax equivalent regime payments for SA Water in 2000-01.

Table 6.4: SA Water tax and tax equivalent payments, 2000-01

<i>Taxes and tax equivalents</i>	<i>\$ million</i>
Income	60 133
Land	3327
Rates	842
Sales	166
Total tax and tax equivalent regime payments	64 468

Source: Government of South Australia (2002)

Similar taxes are expected to apply to rural water service providers. As part of the 2004 NCP assessment of rural pricing reforms, the Council will assess the application of tax equivalent regimes in the rural sector.

Consumption-based pricing: cross-subsidies

Progress report: More explicit treatment of cross-subsidies (particularly within irrigation districts)

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clause 3(a)(i)

Background

Rural: For 2001, the Council had limited information on the extent of cross-subsidies among South Australian rural water users. However, a number of measures taken by South Australia reduced the potential for nontransparent cross-subsidies. While the Council was satisfied that 2001 NCP commitments had been met, it would look for a more explicit treatment of cross-subsidies (particularly within all irrigation districts) when it next assessed progress.

Urban: For 2001, the Council assessed South Australia as having met reform commitments relating to urban cross-subsidy reform. However, the lack of transparency in South Australia's arrangements made open treatment of the issue of cross-subsidies virtually impossible. The Council's intention is to closely monitor South Australia's pricing arrangements in future assessments.

South Australian progress

Rural: South Australia has advised the Council that the Government is not involved in price setting for rural service provision and, given rural service provision is a private sector concern, this issue is not applicable.

Urban: South Australia has not undertaken an open and transparent analysis, and identification of, cases of cross-subsidisation between classes of customer. The establishment of a more open and transparent pricing setting process could address the Council's concerns regarding cross-subsidisation. Options include establishing an independent price regulator and/or a public price-setting process, including submissions to the Government and a publicly available report. (For a detailed comment, see the section on institutional reform)

Institutional reform: structural separation

Progress report: Transparency of the processes for price setting and a review any price issues that emerge.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6

Background

The Minister for Government Enterprises is the owner of SA Water and has the authority to gazette prices. The Council's 2001 assessment framework noted that if the regulator and the service provider are responsible to the same Minister, the Council would require information about how any

resulting potential conflicts of interest had been addressed. Consequently, the Council is looking for a transparent process for setting water prices.

In 2001, the Council concluded that South Australia appears to have processes for transparency in setting and monitoring customer service standards. With pricing, however, there is no similar transparency. In 1999 the South Australian Government initiated a review of future water and wastewater pricing options. That review involved a submission process. However, there was no transparency in the process once the review was finalised. Even though some pricing decisions have been made on the basis of the review the South Australian Government does not intend to release the findings of the review. This makes it very difficult for the Council to be confident that pricing decisions will be consistently based on the principles set out in the water agreement. The consequence of this is that the Council will need to closely monitor all pricing issues in South Australia and review all changes to confirm their consistency with the water reform agreements. This includes continuing to seek information to confirm that cross-subsidies are transparently reported now and in the future.

All of these issues would be resolved by the ability of an independent body to review the pricing arrangements, publicly release a report and the government to respond to that report and present a statement of reasons when it decides to adopt an approach divergent from the recommendations of that report.

South Australian progress

On the issue of separation of price regulation from service provision, South Australian states that:

The NCC has again raised the issue of the transparency in water price setting. South Australia continues to note that the power to set water and sewerage prices resides with the Minister responsible for SA Water, rather than SA Water itself and that the Minister's recommendations are approved by Cabinet, so that the actual decision on prices is made by Cabinet itself. (Government of South Australia 2002, pp. 50-51)

As outlined in the Council's 2001 assessment, in practice, there has been little transparency in the process for determining prices and this has exacerbated problems the Council has had in a range of areas, including the potential for the price structure to include nontransparent cross-subsidies. All other jurisdictions have, or have committed to introducing, independent processes for monitoring or regulating prices.

The Council also understands that as part of its election campaign the current South Australian government announced that:

Labour will create an Essential Services Commission (ESC). This will be an enhancement of the focus and powers of the existing Regulator. The ESC will protect the long-term interests of South Australian consumers with regard to the price, quality and reliability of electricity, and provide oversight of the quality and reliability of gas, water and ports. (ALP 2002)

The South Australian Government released a position paper on *Establishing the Essential Services Commission* in June 2002. The paper identifies that the role for the Commission in water will be restricted to providing oversight of the quality and reliability of services provided by SA Water. The government has decided that the economic regulation of water will be excluded from the initial functions undertaken by the Commission.

In explaining this approach the position paper states that:

Given the public ownership of SA Water, it is likely that including the economic regulation of water in the Essential Services Commission will raise policy matters that will require substantial development work and consultation to ensure that an appropriate framework that is consistent with ongoing public ownership is established.

Resolution of these matters would represent a considerable delay to the introduction of the Essential Services Commission legislation and is inconsistent with the urgency that the Government places on establishing the Essential Service Commission to ensure that consumers are protected with the advent of electricity FRC [full retail competition] currently scheduled to commence on 1 January 2003. (Department of Treasury and Finance, South Australia 2002, p.9)

The Council has not received any information from South Australia on the timing of any such review of the appropriate framework for including the economic regulation of water within the responsibilities of the Essential Services Commission. South Australian officials noted that another option being considered is a full review of regulation options after the NCP water review is completed in accordance with the State Water Plan.

Institutional reform: devolution

Progress report: Progress in converting the Loxton Irrigation District to self-management and discussions on the Lower Murray Reclaimed Irrigation Area.

Next full assessment: The Council will formally assess institutional reform in 2003.

Reference: Water reform agreement, clause 3.

Background

At the time of the 2001 NCP assessment the Council recognised that the Loxton Irrigation District is one of the last major irrigation areas to be converted to self-management. All formal approvals and processes were completed in 1998, effectively clearing the way for its establishment as a private irrigation district on 1 July 2001.

The Government also owns and operates eight small irrigation districts in the Lower Murray Reclaimed Irrigation Areas. At the time of the 2001 NCP assessment, the South Australian Water Policy Committee was discussing the future management of these districts with irrigators. The Lower Murray Reclaimed Irrigation Area Steering Committee was undertaking a major economic analysis of options available for possible rehabilitation of the existing infrastructure. This was to form the basis for further negotiations with irrigators, which were expected to take place in late 2001.

The Council noted that in 2002 it would review the process of converting the Loxton Irrigation District to self-management, and the progress of discussions with the Lower Murray Reclaimed Irrigation Area.

South Australian progress

As expected, the Loxton Irrigation District was established as a private irrigation district on 1 July 2001.

In the Lower Murray Reclaimed Irrigation Areas, the Steering Committee has completed its options study into the economic viability and environmental sustainability of flood irrigating dairy, and evaluation of alternative management options for these areas. The study recommendation accepted by the State Government was to rehabilitate continued flood irrigated dairy for the most viable areas after a period of water trade and restructuring. A funding study has also been completed and the outcome of this will determine the extent and method of public funding assistance to irrigators to restructure and rehabilitate the irrigation areas.

A Lower Murray Irrigation Advisory Board funded by the State Government has been drawn from local irrigators. The Lower Murray Reclaimed Irrigation Areas Steering Committee is working with the Irrigation Advisory Board to progress the necessary water use, drainage discharge, and self-management reforms for these areas.

Submission

The Lower Murray Irrigation Advisory Board (2002, submission 8) has argued that devolving management in the Lower Murray Reclaimed Irrigation Areas should be progressed more quickly. While supporting the

process, they argued that the government appeared to be resisting providing a draft agreement necessary to develop a business plan to take over operations and management functions. The government insists on managing projects, such as development works, when this responsibility should be passed on to irrigators. Further, local management should occur as soon as possible so that the local irrigators take greater responsibility for the reform process.

Water trading

Progress report: Additional information and policy developments on the use of restrictions on trading out of irrigation areas

Next full assessment: The Council will assess intrastate trading arrangements in 2003 and interstate trading arrangements in 2004.

Reference: Water reform agreement, clause 5

Background

In the 2001 NCP assessment, the Council raised concerns about the limitations on the volume of water that may be transferred out of some irrigation districts. The Central Irrigation Trust, for example, has placed a 2 per cent limit on the proportion of total entitlements that can be sold out of a given district.

South Australian progress

Trade restrictions were developed by the Central Irrigation Trust to protect its smaller districts where reduced volumes of water within the district may affect infrastructure costs and thus the cost of irrigation water. The trade ceiling on the permanent sale of water out of the irrigation districts has not placed any limitations on temporary transfers of water, which are the most active area of the water trading market on the River Murray.

The irrigation districts are private trusts, run by a board consisting of elected irrigators. The conditions developed by the boards for the operation of the trusts reflect the social constraints on the trusts. The 2 per cent rule has been applied using the articles of association of the private irrigation trusts, and is not a State Government policy. South Australia argues that there is no reason to increase or phase out the threshold for triggering limitations on trade in the Central Irrigation Trust.

The demand for permanent allocations eased substantially over the 6 months to June 2002. This easing reflected two factors: the lack of new irrigation development, and lending institutions not requiring permanent allocations as surety to underwrite irrigation developments. As evidence, the market price for permanent River Murray water allocations over the past year fell from

\$1150 to \$900 per megalitre, further demonstrating the reduced demand for permanent water allocations.

For permanent trades, South Australia reports the 2 per cent trade ceiling has been reached for approximately 25 per cent of allocations held by the Central Irrigation Trust. The 2 per cent trade ceiling on permanent transfers out of irrigation districts has been reached in five of the smaller irrigation districts (each with less than a 5 gigalitre allocation). The three remaining districts which hold the majority of the water (20 gigalitres or more per district) have not reached their ceilings.

This remains a significant issue, and the Council is looking for the South Australian Government to put in place mechanisms to increase or phase out the threshold for triggering an embargo on trade. These issues will be pursued when intra-state trading is assessed in the 2003 NCP assessment.

7 Tasmania

Outstanding assessment issues

Full cost recovery: urban

Outstanding issue: Tasmania is to demonstrate progress across all retail and distribution service providers, in implementing cost recovery and meeting the lower pricing bound as defined by the CoAG guidelines, with particular attention to asset valuations

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(a)

Background

Cost recovery

In the 2001 National Competition Policy (NCP) assessment, the National Competition Council (the Council) was advised that the 1999-2000 audit of urban water businesses by the Government Prices Oversight Commission found 14 water businesses were commercially viable as defined by the Council of Australian Governments (CoAG) pricing guidelines. Nine wastewater businesses also earned sufficient revenue to recover at least the lower bound of the CoAG guidelines, although the Council noted that competitive neutrality adjustments were not included for a number of local governments. The audit information also suggested that Latrobe water services and King Island wastewater businesses earned returns around twice the recommended weighted average cost of capital.

Tasmania advised that efforts to assist reform initially focused on the largest service providers and on water rather than wastewater services. The Council was concerned that, despite this focus, a substantial number of the largest urban retail and distribution services were not operating on a commercially viable basis. These services included Launceston water, Hobart water and wastewater, Glenorchy wastewater and Clarence water.

Tasmania advised that Launceston, the largest provider of these services, had committed to reaching full cost recovery for water services and to setting rates to achieve this. Launceston was faced with some major increases in bulk water costs, which it has to manage while introducing two-part tariffs for

26 000 connections. The Council understood that Launceston expected to reach the lower band of the CoAG guidelines for 2000-01. Tasmania also advised that improvements in Hobart's water and wastewater businesses would be pursued before the June 2002 NCP assessment.

Tasmania noted that the combined returns for some water and wastewater services, such as those for Clarence, do recover the lower bound. The Council's view is that CoAG full cost recovery commitments require water and wastewater businesses to recover costs independently so as to avoid the risk of nontransparent cross-subsidies. The Council would be particularly concerned where, for example, property-based wastewater charges are used to prop up water business returns based on a two-part tariff, because this potentially undermines the volumetric signal to use water economically.

Tasmania advised that both Clarence and Burnie would be operating on a viable basis from 2000-01. The Council committed to revisit progress by all service providers in 2002, when the Government Prices Oversight Commission would have completed its 2000-01 audit on the commercial viability of local government water providers.

Asset valuations

The 2001 Government Prices Oversight Commission audit showed that at least 16 local governments reported water and wastewater assets at written-down replacement cost or current value. The Council was not provided with information on the degree to which asset values had been optimised.

Of the two local governments that earned returns for 1999-2000 well in excess of the upper band of full cost recovery, both based their return figures on historic cost asset valuations. This valuation approach might have been a factor in the high results, particularly if a large proportion of assets are old. Another possibility, however, is that customers of these services were paying higher prices than they would in a competitive market. The Council undertook to revisit this issue in the 2002 NCP assessment.

In the 2001 NCP assessment, the Council stated that it would look for further information on Tasmania's progress with asset valuation (including optimisation), as recommended by the Government Prices Oversight Commission guidelines, and competitive neutrality costing.

Tasmanian arrangements

Cost recovery

The Tasmanian Government provided the Council with the results of the Government Prices Oversight Commission's audit of local government compliance with the commission's urban water pricing guidelines. The focus

of the audit each year is to determine whether local governments have achieved full cost recovery consistent with the CoAG water reform commitments reflected in the commission's guidelines. The report includes estimates of the real rates of return on assets for each local government. The results for 2000-2001 are summarised in table 7.1.

Table 7.1: Tasmanian local government water and wastewater businesses — rates of return

<i>Local government council</i>	<i>Water real rate of return (Per cent)</i>	<i>Wastewater real rate of return (Per cent)</i>
Break o'Day	1.4	4.7
Brighton	2.5	2.5
Burnie	1.1	-1.6
Central Coast	0.8	4.6
Central Highlands	-8.3	-6.2
Circular Head	6.1	4.6
Clarence	-2.1	3.5
Derwent Valley	-3.3	10.1
Devonport	0.0	1.7
Dorset	1.2	1.9
Flinders	1.3	No service
George Town	2.4	1.0
Glamorgan/Spring Bay	1.0	-0.9
Glenorchy	7.0	11.3
Hobart	-0.9	-1.4
Huon Valley	3.6	2.6
Kentish	-1.0	7.4
King Island	-2.1	8.5
Kingsborough	3.1	2.4
Latrobe	25.3	6.6
Launceston	-0.6	1.1
Meander Valley	2.1	3.9
Northern Midlands	3.8	1.4
Sorell	0.7	5.4
Southern Midlands	0.7	3.5
Tasman	No service	No service
Waratah/Wynyard	-1.0	2.2
West Coast	0.8	-1.9
West Tamar	1.1	4.4

Source: Government Prices Oversight Commission (2002, unpublished)

Nineteen of the 28 local governments providing water supply services were assessed as operating within the guidelines. Eight local governments recovered insufficient revenue to meet the minimum requirement for full cost

recovery, while Latrobe's 25.3 per cent real rate of return on capital exceeded the guideline for the maximum allowable return.

Twenty of the 27 local governments providing wastewater services were operating within the guidelines. Five local governments recovered insufficient revenue under the guidelines, and two exceeded the maximum allowable return.

The Tasmanian Government has assisted local governments with the implementation of CoAG full cost recovery guidelines. This assistance included the development of partnership agreements, communication through the Premier's Local Government Council, and provision of cost recovery and pricing correspondence, including the audit guidelines of the Government Prices Oversight Commission. The audit reporting cycle is to be changed, with data to be collected in November and the report to be finalised by February each year.

Asset valuations

Revised water pricing guidelines were included in the audit guidelines and attached to the Premier's March 2002 letters to all local government water businesses. The guidelines call for asset consumption to be reflected through a renewals annuity or 2 per cent of the written-down replacement cost of assets, when local government water and wastewater businesses estimate the lower limit of cost recovery. Depreciation should be used based on deprival value (optimised replacement values) when estimating the upper limit. Where deprival valuations are not available, depreciation as reported by local governments on a current replacement cost basis may be used to value assets.

Submissions

The submission from Robert Rockefeller, Director of Nekon (2002, submission 18), raised issues concerning full cost recovery and asset valuations using Hobart as an example to draw some conclusions on the progress of southern local governments.

- Hobart has not yet adopted full cost recovery.
- There is no independent oversight of asset valuations (and revaluations) for water and sewerage infrastructure at the retail level, which may lead to the application of incorrect valuation methods and distortions in pricing.
- The method of revaluing assets adopted by the City of Glenorchy varies from that of City of Hobart.

- The lack of clarity in who owns water and sewerage infrastructure assets has ramifications for full cost recovery, pricing and dividend distributions by local governments.

Discussion

Tasmania provided the Council with full cost recovery information that shows:

- 19 of 28 local government water businesses were commercially viable (as defined by the CoAG guidelines) for 2000-01 — an improvement from 14 for 1999-2000;
- 20 of 27 local government wastewater businesses were commercially viable for 2000-01 — an improvement from 9 for 1999-2000.

Despite progress toward full cost recovery by local government water service providers, the Council is concerned that a significant proportion of Tasmania's largest service providers are still not commercially viable.

For the 2001 NCP assessment, Tasmania advised that the Council would see a significant improvement in the performance of this group. For the four largest providers discussed in that assessment, table 7.2 compares progress towards full cost recovery.

Table 7.2: Comparison of real rates of return

<i>Local government council</i>	<i>Service</i>	<i>Connections (approx. no.)</i>	<i>Real rate of return (%)</i>	
			<i>1999-2000</i>	<i>2000-01</i>
Launceston	Water	25 600	-1.0	-0.6
Hobart	Water	20 500	-0.6	-0.9
Hobart	Wastewater	n/a	-1.7	-1.4
Glenorchy	Wastewater	16 600	-0.6	11.4
Clarence	Water	17 500	-18.0	-2.1

Source: Government Prices Oversight Commission (2001, 2002 unpublished)

Of the five large local government services highlighted in the 2001 NCP assessment, none operated within the bounds of full cost recovery for 2000-01. Glenorchy increased its rate of return to move from making a loss to generating a 2000-01 return well above the upper bound limit of 7 per cent real rate of return.¹ Launceston and Hobart services remain largely the same and, despite improvements, Clarence still under recovers.

¹ This rate was set by the Government Prices Oversight Commission.

To address the under-recovery of costs by Hobart water and wastewater businesses, the Hobart City Council, in consultation with the Tasmanian Government, developed a full cost recovery plan. Tasmania advises that the Hobart City Council's water supply and wastewater businesses will operate on a full cost recovery basis from 2002-03. This approach will be achieved by re-allocating Hobart's rate revenue from general rates to water and wastewater service undertakings.

Of the under-recovering councils, the audit report revealed that three have bulk water supplied by Hobart Water. Part of their under-recovery is the result of an exceptionally dry 2000-01 summer, which resulted in higher quantities and costs of water purchases. The councils were unable to recover this expense as water users are charged via property based rates. The audit report suggested, however, that 2001-02 should be a more normal year for assessing the extent of departure from the commission's guidelines. This illustrates one of the difficulties caused by water charging based on property values rather than the level of water use.

The Council's 2001 NCP assessment noted the high rates of return earned by Latrobe and King Island councils. Of these two councils, Latrobe has by far the larger number of connections (3000). The audit information for Latrobe water and King Island wastewater services is presented in table 7.3.

Table 7.3: Comparison of real rates of return

<i>Local government</i>	<i>Service</i>	<i>Real rate of return (%)</i>	
		<i>1999-2000</i>	<i>2000-2001</i>
Latrobe	Water	14.3	25.3
King Island	Wastewater	13.5	8.5

Source: Government Prices Oversight Commission (2001, 2002, unpublished)

The Government Prices Oversight Commission audit makes it clear that the revenue of Latrobe has exceeded the guideline for the maximum allowable return, giving rise to monopoly pricing. Latrobe water services has increased earnings to approximately four times the recommended weighted average cost of capital, up from two times in 1999-2000.

The Council has concerns about the level of transparency in the commission's audit process. The audit reports provide no detail on the actual costing approaches used by local governments or how the commission adjusts for different approaches. The results of the audit are not publicly available and no formalised mechanism exists to ensure problems identified by the commission are rectified. These problems are illustrated by the audit review's finding that local government cost recovery performance has deteriorated in several cases. Again, given the lack of transparency, it is difficult to assess whether this apparent deterioration is the result of different costing approaches adopted in each year. Tasmania has also stated that climatic conditions over the reporting period have led to a lower level of cost recovery in some local governments, and that this fall should be reversed in coming

years. Given the level of information provided to the Council, it is difficult to verify this claim or to determine whether such climatic conditions will result in excessive returns for those local governments that are close to or above the top of the band.

Given that the Government Prices Oversight Commission's role is to make recommendations only and its report is not made public, it is difficult to see how the current process can generate the momentum to ensure reforms are implemented. The Council is looking for jurisdictions to demonstrate that they have processes in place that will continue to achieve the objectives of water reform beyond the life of the Council's assessment process.

Asset valuations

Tasmanian providers appear to apply different asset valuation methods. In 1999-2000 local governments used various accounting and economic asset valuation methods. Tasmania has developed guidelines for local governments to apply, but the Council is unaware whether local governments are adopting these methods or whether the commission still needs to adjust all of these different valuation methods as part of its audit process. It is therefore difficult to compare performance across providers and to determine whether CoAG full cost recovery against the bottom of the band is being achieved.

The commission's audits discuss asset values only in general terms. Further, Tasmania has not provided sufficient information on asset values or asset valuation methods applied by local government providers for the Council to determine whether the approaches used are consistent with the water reform commitments.

The Council requires Tasmania to provide information on:

- the asset valuation methods used;
- why some local government councils are using asset valuation methods that are inconsistent with the commission's guidelines; and
- the degree to which asset values have been optimised. Where depreciation is used, it should be based on optimised replacement value.

The Government Prices Oversight Commission has cautioned interpreting the rate of return data as rates of return are calculated based on actual depreciation reported by local governments, which differs from the depreciation assumed in determining the lower limits for cost recovery. A local government activity may thus show a negative rate of return, yet still meet the lower limit for cost recovery.

An additional problem is that while the adjusted audit information may indicate that a local government is pricing within the band in one year, that level of cost recovery is not guaranteed to continue. The approach of local governments to asset accounting is different from the commission's guidelines

and no explanations are provided to explain these differences. The Council therefore cannot be confident that local governments will maintain appropriate levels of cost recovery into the future.

Assessment

The Council has three key concerns with urban pricing in Tasmania.

- Insufficient information has been provided by Tasmania to make a full assessment of urban pricing reform.
- Based on the available information a significant number of local governments still appear to have levels of cost recovery outside the band. Further, the outcomes in some local governments deteriorated over the 12 months to the end of 2000-01.
- There is insufficient transparency in the Government Prices Oversight Commission's audit process to deliver ongoing reform.

The Council recognises that Tasmania has a number of mechanisms in place to support the implementation of water reform by local governments. The Council's assessment, however, is based on programs and processes that deliver reform outcomes. The Tasmanian Government has committed to working with the Council to resolve concerns about urban pricing and other issues. In a letter to the Council, Tasmania stated that in the area of urban pricing it would provide by 31 August 2002:

- a report on local governments' adoption of asset valuation methodologies consistent with CoAG guidelines;
- reasons for alternative valuation approaches being adopted; and
- responses to any assessment issues emerging from this information.

Tasmania also undertook to provide the Council by 31 August 2002 the strategy that will be adopted to improve the rate of progress in cost recovery for those businesses identified in the Government Prices Oversight Commission audit as either under-recovering or over-recovering costs. The Government Prices Oversight Commission audit report will be made publicly available by that date.

Based on this commitment, the Council has decided that it will conduct a supplementary NCP assessment in October 2002 on all issues raised in this section relating to full cost recovery. The Council is expecting significant outcomes from this supplementary assessment, and believes this is warranted given cost recovery reforms for urban water and wastewater services are now three years overdue.

All aspects of urban pricing reform will be assessed in the 2003 NCP assessment, when the Council will again look at the reform progress among

local governments, and will expect substantial completion of reform commitments. The Council will also consider whether the approaches being used by Tasmania to encourage the implementation of reform are achieving the desired reform outcomes.

Consumption-based pricing

Outstanding issue: Tasmania is to demonstrate progress against the two-part tariff implementation timetable, and rigorous consideration of the introduction of trade waste charges where cost effective.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

Two-part tariffs

For the 2001 NCP assessment, Tasmania provided a progress report on local government water service providers against the two-part tariff implementation timetable.² For that assessment, the Council was satisfied that Tasmania had continued to achieve progress in implementing two-part tariffs. Four of eighteen local government water schemes were reported as adopting two-part tariff pricing structures. Given that this reform commitment was initially due by the end of 1998, the Council said that it would review progress against this timetable in 2002. The Council would need a robust justification for any delays in implementation.

Trade waste charges

For the 2001 NCP assessment, the Council had not been advised of whether any services levied trade waste charges. The Council considers that significant gains would result from a rigorous investigation of the introduction of trade waste charges where cost effective.

² The Council's December 1999 supplementary NCP assessment outlined Tasmania's process for determining the cost-effectiveness of two-part tariffs and the resulting timetable.

Tasmanian arrangements

Two-part tariffs

For 2002, Tasmania has reported significant progress in this area of reform, with 17 of the 18 schemes now having implemented two-part tariffs, in line with targets. The remaining scheme, operated by Derwent Valley Council, was to commence two-part tariffs in July 2002.

Trade waste charges

Tasmania reported that local government councils have legislative and administrative support mechanisms to address trade waste issues.

The *Local Government Act 1993* enables local governments to enter into trade waste agreements with waste dischargers to recoup the additional costs of treatment of trade wastes. The *Local Government Act 1993* also allows local government councils to establish bylaws addressing trade waste issues.

The *Plumbing Regulations 1994* prohibit direct or indirect discharge of trade waste into a sewerage system unless the discharge is authorised in accordance with a special connection permit. Penalties are available to enforce this prohibition.

The Department of Primary Industries, Water and Environment has issued environmental guidelines for acceptance of liquid wastes to sewers under its sewerage management program. These guidelines identify technical limits for accepting liquid wastes. The department has been using the program to work with local governments to identify sources of trade waste. The department has also developed a model trade waste agreement to help local governments establish trade waste agreements with discharge customers.

The following are the result of these mechanisms.

- The Glenorchy, Hobart, Launceston and Devonport city councils have specific trade waste bylaws. These councils have also established extensive trade waste policies and guidelines. The Brighton, Central Highlands, Clarence City, Huon Valley, Kingsborough, Sorell and Tasman councils have similar powers under sewerage and/or drainage bylaws.
- The Hobart City Council has approximately 600 premises that discharge liquid trade waste to the council's sewerage system, and the majority are managed through trade waste permits that specify acceptance limits.
- The Devonport and Central Coast councils have entered into trade waste agreements with two of the State's largest point-source wastewater dischargers of nitrogen and phosphorous.

-
- The Devonport City Council's sewerage system receives trade waste from a number of local industries. The quality and quantity of waste from each industry is variable and places a major load on the council's reticulation, operational and treatment costs. Costs are recovered from the relevant industries via trade waste charges applied under the council's trade waste bylaw. The trade waste charges also provide an incentive for industry to provide on-site treatment to reduce the impact on the sewerage system and, accordingly, to reduce their costs.
 - The Burnie City Council has trade waste agreements in place for identified dischargers. It is in discussion with a major milk processing facility regarding the treatment of the facility's effluent.
 - The Dorset Council has established a treatment plant funding program. A vegetable processing plant discharger at Scottsdale is meeting 90 per cent of the costs of the Scottsdale sewerage treatment plant.

Smaller rural councils

Given the predominantly decentralised and rural nature of Tasmania, many smaller rural councils do not face significant pollutant loads from industry. Where a pollutant load is identified, however, all councils have the legislative power to address the issue. The following are examples of progress.

- The Kentish Council (population 5530) identified that the life of its pump stations are being reduced as a result of the Railton sewerage scheme treating trade waste from the Australian Cement Works. The Kentish Council is addressing this issue with the management of Australian Cement.
- The Northern Midlands Council has a significant trade waste agreement in place, whereby Longford Abattoirs fund 85 per cent of operational and treatment costs for the Longford sewage lagoons.
- The George Town Council also recovers approximately 70 per cent of its wastewater scheme revenues through trade waste agreements.

In addition, three large industrial sites have specific trade waste agreements, with a focus on cleaner production. They undergo regular monitoring to ensure acceptance limits are met. The agreements contain provisions for the recovery of operating costs and depreciation, relating to the council's sewage treatment facilities, sewer reticulation costs, sludge disposal costs and trade waste administration costs, along with relevant on-costs and overheads.

Submissions

Robert Rockefeller (2002, submission 18) raised the following issues concerning consumption-based pricing.

- **Brighton is the only southern Tasmanian council that has two-part tariff pricing of water services. Southern councils that do not two-part price include Hobart, Clarence, Sorrell, Kingsborough, Glenorchy, New Norfolk and Huonville.³**
- **Mr Rockefeller's properties in Hobart are charged water and wastewater services fees based on the annually assessed value of the properties. Based on water consumed, he has calculated he pays \$4.55 per kilolitre. The same consumption would cost \$8.42 per kilolitre in Glenorchy and \$0.66 per kilolitre in Brighton (under two-part tariff arrangements). Some buildings in Hobart are charged the equivalent of \$18 per kilolitre (calculated by dividing annual consumption by the annually assessed value charge for water services).**
- **Large volume water users, such as National Foods and Cascade, and large ships that come into port are only charged the marginal cost of water consumption.**
- **Two-part tariff reports and corporatisation tests, in Mr Rockefeller's opinion, are not providing an appropriate pricing signal that promotes water conservation.**
- **The City of Hobart does not require water meters on new residential buildings, so it is questionable whether the Hobart City Council desires to move towards two-part pricing.**
- **The Clarence City Council charges various rates for water in different residential areas in the city. Mr Rockefeller argues that the rates are dependent on whether meters are installed or not. In addition, an excess charge is in place for metered customers, while nonmetered customers have no excess charges and can consume any amount of water (that is, there is no incentive to conserve water). Clarence does not have a policy to meter the city, and does not charge on a consumption basis where meters are installed.**
- **Local governments should charge for water consumption if they can do so, rather than solely for excess water, and councils should discontinue annual valuation-based charges.**

Discussion and assessment

Tasmania is introducing two-part tariffs for local governments that have found the reforms to be cost effective. The lack of transparency in costing, price calculations and community service obligations, however, appear to be

³ Tasmania has undertaken an assessment of the cost effectiveness of applying two-part tariffs to its urban retail and distribution water supply schemes. This process is outlined in the Council's 1999 NCP supplementary assessment.

resulting in customer concerns such as those expressed by Mr Rockefeller. Transparency was discussed in the previous section and is also discussed in the progress reports on community service obligations and cross-subsidies (see below). These will be significant issues in the 2003 NCP assessment.

Hobart City Council has released a water reform package (Hobart City Council, 2001) which is directly related to CoAG water reform commitments, and appears to address some of the issues raised in the submission by Mr Rockefeller. In relation to consumption based pricing, Hobart City Council have committed to undertake the following measures:

- Installation of meters for all non-residential customers;
- Application of a two-part tariff system of charging when non-residential metering is complete; and
- To attribute costs internally. Units responsible for the management of water use by Hobart City Council properties will be charged for that use in a transparent manner.

Hobart City Council has found that there are significant issues regarding cross-subsidies under their current practices. The endorsed reform package, however, aims to either eliminate these cross-subsidies, where appropriate, or to make them transparent.

In relation to Mr Rockefeller's claim that rates charged by Clarence City Council are meter dependent, Tasmania has advised that water rates are charged in accordance with the costs of each scheme operated by the Clarence City Council.

The application of trade waste charges appears to be *ad hoc*. There is a system of managing waste, but no consistent approach to pricing. The Council strongly urges Tasmania to adopt a trade waste charge that captures those customers who pay less than the incremental cost of discharges into local government sewerage infrastructure. The absence of such a charging regime — namely one that reflects the quantity and/or toxicity of the waste — provides scope for nontransparent cross-subsidies and has the potential to undermine the CoAG-endorsed principle of consumption-based pricing.

In the 2003 NCP assessment, the Council will focus on the trade waste charging arrangements in those local government areas where the largest trade waste discharges are located. These include Devonport, Hobart, Launceston, Circular Head, Central Coast, Glenorchy and Burnie.

Water allocations and property rights

Outstanding issue: Tasmania is developing a policy on the regulation of farm dams.

Next full assessment: The Council will assess water allocations and property rights reforms in 2004.

Reference: Water reform agreement, clause 4(a)

Background

In June 2001, the Council considered that Tasmania's system of water property rights met the CoAG commitments. The Council found, however, an emerging issue concerning the cumulative impacts on property rights and the environment of the capture of surface runoff by Tasmanian farm dams. A 2001 report by the Department of Primary Industries, Water and Environment on water availability in Tasmania stated:

A negative impact of farm dams is the reduction of water yields and runoff reaching rivers and streams and eventually the sea, for example this can impact negatively on river mouths by building up sand bars and blocking flow. This is occurring in the north-east and north-west of the State. The Government made a decision to exclude the capture of surface runoff from needing a water right under the Water Management Act 1999. A question that needs to be addressed is when and how the State should develop a policy on the number of farm dams built within a region. (Department of Primary Industries, Water and Environment 2001a, p. 25)

Tasmania was in the process of developing a farm dams policy to be in place by mid-2002. The Council undertook to review developments in the 2002 NCP assessment.

Tasmanian arrangements

There is no statutory requirement to consider the cumulative impacts of farm dams built within a region because under the *Water Management Act 1999* no water right is needed to capture surface runoff.⁴ Tasmania has recognised, however, that it needs to develop, in consultation with stakeholders, a policy to manage the cumulative impact of incremental dam development. The aim of the policy is to:

⁴ The Act allows a landholder to take surface water from land for any purpose without the need for a water licence. Where the taking of surface water is deemed to have a significant impact on catchment water resources, however, a water management plan can require it to be subject to a water licence (with appropriate conditions).

-
- provide a strategic framework to improve the management of the impacts of incremental dam development; and
 - guide decision-makers in assessing the cumulative impacts of new dam permit and water licence applications.

During 2001-02, Tasmania commenced work on developing a policy to guide the Assessment Committee for Dam Construction in better assessing the cumulative impacts of dams as part of considering new dam permit applications. The policy will result in guidelines for use by the committee, and will consider the role of government and the community in actively managing the cumulative effects of dams to minimise future impacts. Funded in the 2001 State Budget, the policy will address the farm dams issue in two ways:

- managing the impact that allocations have on high flushing environmental flows; and
- specifying mitigating physical requirements in the building of dams, such as fish passage.

Public consultation on a discussion paper and policy options will be undertaken in July–August 2002 and the policy is now due for completion by September 2002. Interim guidelines are being used until the policy is finalised.

Managing allocations

The policy will aim to establish sustainable catchment limits for dam development and water extraction. This project will examine mechanisms to manage farm dam development on a whole-of-catchment basis, including the cumulative impacts of water extraction on the environment and other users. The effects on the environment include the impacts of dams on riverine, wetland and estuarine ecosystems and water quality. The policy will consider changes to flow regimes, fish passage, water quality and dam safety associated with new permit and licence applications.

The Council was provided with a copy of the consultant's brief, which outlines two stages to the project.

- Stage one involves the collation and analysis of hydrological information from stream gauging stations around Tasmania, to select major catchments and key subcatchments with sufficient information to establish baseline data. Tasmania estimates that sufficient information should be available from approximately 100 stations. Monthly and annual rainfall and catchment area information will also be collated for the sites, and desktop environmental flows will be determined.
- Stage two involves the calculation of estimated sustainable yields available for abstraction in selected catchments, accounting for environmental flow requirements and the proportion of catchment yield

allocated as water licences. A key requirement of the project is to develop an assessment tool that can be integrated with the current dam assessment process. This will enable the Department of Primary Industries, Water and Environment to calculate available water for abstraction at other points within the catchments using rainfall and area weighted averages.

Physical aspects of dam construction

The Assessment Committee for Dam Construction uses guidelines to approve farm dams, and these guidelines can be modified to address physical aspects of dam construction. The committee is required to account for the objectives of the Water Management Act and could reject a dam on the basis of environmental harm. The Committee considers flood flows, dam safety, water quality, and other environmental and heritage issues as well as the requirements of downstream users before approving a dam permit. Water licences and allocations to fill a farm dam are assessed and approved by the Department of Primary Industries, Water and Environment. Tasmania has advised that water rights are approved to take water only during the winter-spring periods (high flow periods). Outside these periods, all water entering a dam must be released downstream. The policy will be designed to assist the Assessment Committee for Dam Construction and the Department of Primary Industries, Water and Environment with criteria to make judgements on this issue, including thermal pollution guidelines.

Interim guidelines

As part of the policy development, interim guidelines are being established to integrate water assessments better within the current dam permit process. A consultant has calculated interim water diversion limits within selected catchments across Tasmania, accounting for current water allocations and environmental flows. These limits will be used to avoid overallocation of resources and the future environmental management problems associated with the resulting increased demand.

Interim diversion limits will allow the Assessment Committee for Dam Construction and the Department of Primary Industries, Water and Environment to assess the cumulative impacts of water extraction of new dam permit and water licence applications. The department is examining options to assess water availability better at a catchment level, and the interim limits will be reviewed once the policy has been finalised.

Submission

The Tasmanian Conservation Trust (2002, submission 7) supports the progress on the proposed farm dams policy, although it considers it

unfortunate that the Tasmanian Government chose not to implement a moratorium on farm dam approvals while the process is being developed.

Colin and Suzanne Dyke (2002, submission 11) are oyster farmers in the Little Swanport Estuary on the east coast of Tasmania. Their business and that of coastal fisheries rely on the health of the water environment. Applications have been made to construct four in-stream dams in the catchment which, if approved, would collectively dam 20 per cent of the area of the Little Swanport River catchment. The fishery owners are concerned how these proposals may impact on the freshwater-dependent estuarine ecosystem and, consequently, farm productivity and business viability. The freshwater requirements of an estuarine ecosystem are unknown. The Dykes' submission argues that:

- there is continuing *ad hoc* proliferation of dams/water licences/allocations, averaging an incredible three applications per week in some stressed river systems and another 143 applications under assessment, with no water management plans in place;
- the proliferation of dams is occurring without environmental water requirements (EWRs) or environmental water provisions (EWP) being established for ecosystems that depend on the water resource being dammed/allocated, and without any certainty of the impact of the water takes;
- there has been no moratorium on access to freshwater since the Water Management Act was passed. In relation to marine farming plans, a moratorium was put in place until management plans were completed;
- the resources spent on assessing dams/water allocations under the *ad hoc* process may be better spent on speeding up the development of water management plans and other process implementation; and
- dam applications are heavily subsidised, with government sources providing funds for investigations.

Discussion and assessment

Tasmania provided the Council with a copy of the consultant's project brief to determine sustainable water abstraction yields for selected catchments across Tasmania (stage one of the proposed final policy), a scoping paper on the cumulative effects of dams policy, and the interim guidelines. The Council is satisfied that Tasmania is addressing this issue and has implemented appropriate interim measures while developing a final policy position. The Council considers that the development of this policy is very important, especially given that the Tasmanian Government has established a \$10 million program for water development (see the progress report on new rural schemes).

The Council will assess all water property rights arrangements across all States in the 2004 NCP assessment. It will examine in 2004 the final cumulative effects of farm dams policy as part of an examination of Tasmania's progress in water property rights arrangements. The Council is satisfied the outstanding 2001 issue is being addressed.

Provision for the environment

Outstanding issue: Tasmania is to demonstrate progress against its implementation program and principle 5 of the national principles for the provision of water for ecosystems.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against a jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be complete.

Reference: Water reform agreement, clause 4(b-f)

Background

The Council found Tasmania had met commitments for the 2001 NCP assessment. In assessing Tasmania's progress against national principle five, however, the Council noted that the Department of Primary Industries, Water and Environment had found that the South Esk and Meander rivers could be classified as overdeveloped over the summer months. The Council undertook to review the management plans for these rivers when they become available to determine whether Tasmania has addressed the issue of allocations for the environment over the critical period.

The Council has noted that the processes for determining environmental water requirements have been slower than Tasmania anticipated. At the time of the 2001 NCP assessment, no water management plans had been developed. While Tasmania was confident that the water management plans will be completed by 2005, the Council undertook to re-assess Tasmania's progress against the implementation program for the 2002 NCP assessment.

Tasmania is addressing water allocations for the environment in two phases under the 'water for ecosystem' policy.

- First, the Department of Primary Industries, Water and Environment is determining environmental water requirements (EWRs) across the State to address the flow requirements for rivers, using detailed methods for stressed rivers and rapid assessment methods for lower priority systems. An EWR is a description of the water regime needed to sustain ecological values of aquatic ecosystems at a low level of risk. These descriptions are developed through the application of scientific methods or local knowledge based on years of observation.
- Second, for stressed rivers and groundwater systems, an environmental water provision (EWP) based on environmental, economic and social

considerations — as determined by the community and incorporated into the statutory water management plans — will determine the portion of the EWR that can be achieved. EWPs are the part of the environmental water requirement that can be met, or that part of the water regime preserved for the environment through agreement or negotiation. Tasmania has advised that protected environmental values identified by the community for water management plans are completed and will be used in determining EWPs.

Both EWRs and EWPs will be quantified as monthly average flows and/or average levels. Under the Tasmanian model, where it is necessary to reduce water allocations in stressed or overallocated systems, a water management plan provides that the reduction is equitable and that sureties attached to licences or water allocations are taken into account.

Tasmanian arrangements

Progress against implementation program

Environmental flow priorities for Tasmania are based on the consideration of factors in a knowledge-based 'impact matrix'. The matrix was developed in consultation with experts from a range of State Government departments, as well as the University of Tasmania. Factors included in the matrix are the ecological status of Tasmania's estuaries, water quality, threatened species issues, existing water allocations and water development pressures. A number of these factors have been combined into simple ratings (for example, instream ecology priority) and either assigned a high, medium or low priority, or ranked in order of importance.

Tasmania has advised that it has made substantial progress in identifying environmental flow requirements in river systems. Detailed information on progress is provided in an updated impact matrix in Attachment 1. The determination of EWRs was delayed in four catchments.

- The Coal River was due for completion in June 2001. The lack of rainfall and the degree of regulation prevented final analysis of minimum flow requirements until recently. Further, it has been recognised that this catchment requires a more holistic approach. A contract has been let for a consultancy to complete the necessary work. The studies under way recognise the ecological values associated with the Ramsar⁵ listed wetland, the needs of the associated Pittwater Estuary, and flows required to maintain geomorphologic processes within the river. EWRs for this catchment are now to be completed in August 2002.

⁵ The Ramsar wetlands are those listed under the 1971 Convention on Wetlands as wetlands of international importance.

- The assessment of EWRs for the Welcome and Montagu catchments in far north-west Tasmania has been delayed. Assessment of these catchments is problematic given the substantial amount of drainage works and channel building that has taken place in both waterways (which were swamp forests). Neither catchment is a riverine or standing water ecosystem, so it has been difficult to determine the most appropriate method to assess EWRs. The Department of Primary Industries, Water and Environment has undertaken comprehensive surveys of river health and fish distribution in both catchments, to provide background material for EWR assessment. Scopes are being written to address EWRs for riparian and geomorphologic values targeted at undisturbed sections of these catchments. More holistic assessments are expected to be completed by December 2002.
- The Jordan River is targeted for completion in December 2002. Substantial work is under way as part of a major dam investigation. To avoid duplication of effort, the Department of Primary Industries, Water and Environment is awaiting the outcomes of these studies before conducting additional assessments. The ecological values associated with the Jordan catchment are significantly degraded, given riparian vegetation clearance and weed infestation, poor water quality and poor river health. New approaches will also be required to determine EWRs for this catchment. A revised timeline for this catchment is difficult to determine at this stage, given the dependence on external parties completing the dam studies.
- The Leven River was delayed due to field work and Basslink commitments this year. The revised completion date is September 2003.

Despite these setbacks, significant work has been completed, with major environmental flows studies brought forward in other areas of the State. Significantly, the Gordon, King and Lower Macquarie river studies are being delivered well ahead of previously provided timelines. The completion of these detailed scientific studies has been facilitated by the proposed Basslink interconnector between Tasmania and the southeast Australian power grid. Substantial work has also been completed on the lower Derwent River, well ahead of the June 2006 schedule.

Water management plans

Tasmania has advised that it decided to develop the Great Forester water management plan as a priority. The environmental flows work was completed and the catchment was deemed to be a good model for the water management planning process.

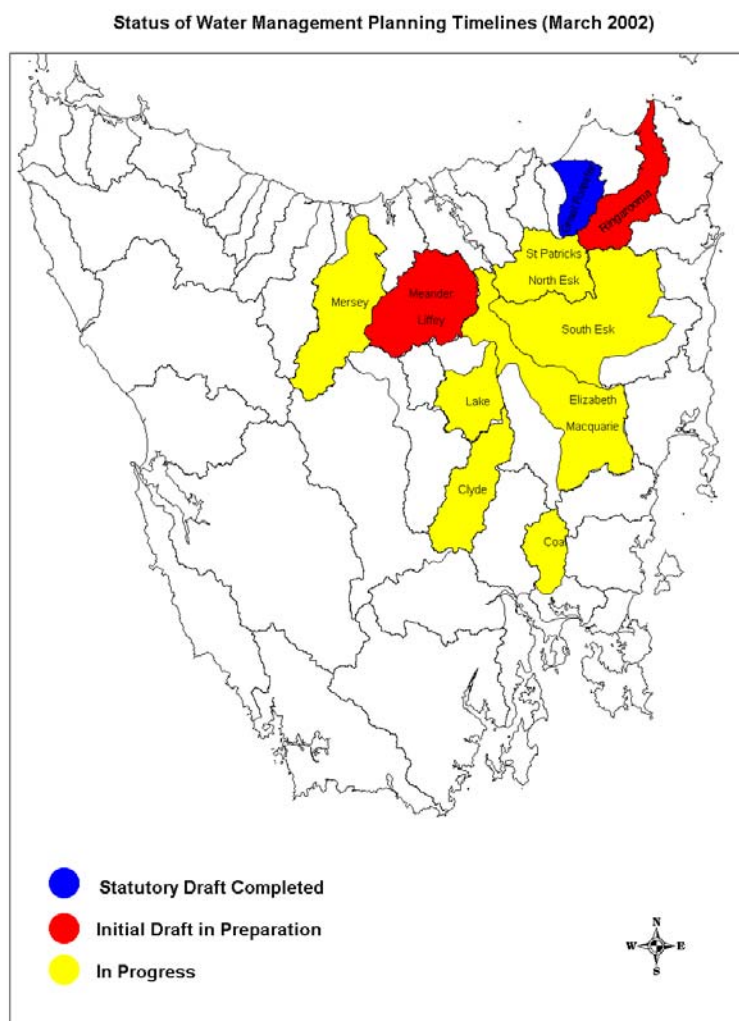
As a result, the completion of water management plans will not strictly accord with the original timetables. The water planning process is expected to be expedited, however, by the ability to use the revised Great Forester plan as a model for other catchments and by the increased resourcing for the water planning work in 2002-03. Tasmania has flagged an intention to review the

timetable for the development of water management plans after the Great Forester plan is completed. The work status of the relevant water management plans is shown in table 7.4

Table 7.4: Status of water management planning timelines for priority river systems

<i>Water management plan</i>	<i>Original timeline</i>	<i>Current work status</i>
Great Forester River	December 2004	Draft plan is complete. Four stakeholder workshops were held prior to the draft plan exhibition in January 2002, with a public meeting held on 14 February 2002. Case studies of economic impacts of plan effects on farming operations are complete. A report on submissions was prepared. Consultative group convened to review draft plan, and the group has met twice.
Meander	December 2001	Preliminary draft plan is in progress. Two public workshops completed. The Meander Dam proposal has delayed finalisation of the draft plan because the dam is expected to have a major favourable impact on the ability to implement environmental flow provisions. A draft Meander River water management plan for the 'with dam' scenario is included in the development proposal and environmental management plan submitted to support the application for statutory approvals for the Meander Dam. Further development of the plan has been put on hold, pending the outcome of the dam approvals process.
Upper and Lower Mersey rivers	December 2001	Part complete. Environmental flow study is complete. Stakeholder meetings were held. Negotiations are under way, with Hydro Tasmania as the major water user in this largely regulated river.
Elizabeth River	December 2002	Part complete. Environmental flow study is complete.
Liffey River	December 2002	Environmental flow study is complete, as per Meander River.
Tooms River	December 2002	Part complete. Environmental flow study is complete.
Macquarie downstream of Ross River	December 2003	Part complete.
Ringarooma River	December 2003	Preliminary draft plan is in progress. A second stakeholder workshop was held in September 2001. Case studies of economic impacts of the plan on farming are complete.
Coal River	June 2004	Environmental flow study is complete.
Lake River and Macquarie River below Lake River	December 2004	Part complete. Environmental Flow Study is complete.
South Esk River	December 2004	Part complete. Environmental flow study is complete.
Clyde River	June 2005	Part complete. Technical studies for Clyde River, Lake Sorell and Lake Crescent are complete. Clyde Catchment Water Management Planning Consultative Group formed May 2002.
Brumby's Creek	December 2005	Part complete. Environmental flow study is complete.
North Esk River	December 2005	Part complete. Environmental flow study is complete.
St Patricks River	December 2005	Part complete. Environmental flow study is complete.

Source: Government of Tasmania (2002, unpublished)



Principle 5

Tasmania provided the Council with a copy of the draft Great Forester catchment water management plan publicly exhibited in January 2002. It is the first plan to reach this stage in Tasmania. Four stakeholder workshops were held to develop the draft plan, which contains EWP based on two years of consultation. The proposed EWPs are shown in table 7.5.

Table 7.5: EWPs for the Great Forester River, December–April (ML/day)*

	<i>December</i>	<i>January</i>	<i>February</i>	<i>March</i>	<i>April</i>
2002-03	30	30	30	30	30
2003-04	35	35	35	35	35
2004-05	35	35	35	35	35
2005-06	35	35	35	35	35
2006-07	85	60	55	40	70

* Measured at the Forester Road gauging station.

Source: Great Forester Catchment draft water management plan (January 2002)

The plan does not propose to change current water allocations within the catchment. Restrictions on water takes will apply, however, when flow rates at the Forester Road gauging station are within 10 megalitres of the specified EWPs. Restrictions will be introduced generally in accordance with the following sureties, where surety 1 has the highest level of security:

- surety 1 — stock and domestic and essential town water supplies;
- surety 2 — EWPs;
- surety 3 — any prescriptive rights converted to a licensed allocation under the Act;
- surety 4 — special licences;
- surety 5 —
 - (i) commissional water rights, those rights converted to water licences under the Act, and nonessential town water supplies; and
 - (ii) all new allocations issued outside the period December–April; and
- surety 6 — all new water allocations issued for the period December–April providing the applicant can demonstrate that this quantity of water was used as a temporary water allocation in at least two years before 1 December 2002. Temporary water rights will be converted into permanent rights on request to the Department of Primary Industries, Water and Environment.

As the EWP level is approached progressive restrictions will be put in place on irrigation water extraction and a total ban on surety 5 and surety 6 takes will be applied at the EWP if necessary.

Tasmania advised that the statutory public meeting held in February 2002 raised a great deal of opposition to the draft plan on the grounds that it would have a severe economic impact on water users. Submissions received on the draft plan also expressed these concerns. As a result of public concern, the Department of Primary Industries, Water and Environment commissioned independent analysis of the impact of the proposed water flow regime in the draft plan. Armstrong Agricultural Services Pty Ltd and National Strategic Services Pty Ltd conducted the Great Forester Catchment, Irrigation and Water Reliability Project.

This consultancy concluded that the increase in environmental flows will reduce the amount of water available to irrigators by 2330 megalitres per year (or 43 per cent of present allocations) by 2006-07. Based on returns to irrigators of \$1000 per megalitre, the consultancy estimated a potential reduction in agricultural production of \$2.3 million per year at the farm gate level and flow-on losses of a further \$4.7 million and 22 jobs at the State level. The changes will result in reduced reliability of water for irrigation with more extended periods of restriction. The Tasmanian Farmers and Graziers

Association Dairy Council have expressed concerns about the draft water management plans for the Great Forester and the Ringarooma rivers.

The consultancy has resulted in Tasmania announcing a review of the draft Great Forester plan and a proposed change in the method for developing water management plans in general. The development of plans now needs to address the following matters.

- A draft plan needs ownership by water users, who should be directly involved in its preparation.
- Implementation actions must be considered particularly how economic consequences are to be addressed.
- Sufficient and acceptable water information must be available, including a measurable direction of environmental improvement.

The newly established Great Forester Catchment Water Management Planning Consultative Group is actively progressing these matters. The group aims to develop a new draft plan for release in August 2002.

As a result of this change in method, more time and resources than anticipated have been needed for negotiations on the draft Great Forester and other water management plans. In response, the Tasmanian Government increased recurrent funding for the water management planning process in the 2002-03 Budget.

As a result of the controversy surrounding the release of the original draft Great Forester Water Management Plan, some other catchments across the State have shown an unwillingness to engage in developing water management plans until a clearer picture emerges of the Government's direction in reviewing the draft Great Forester plan.

Submissions

The Tasmanian Conservation Trust (2002, submission 7) supports the water management planning process, but argues that the process is under resourced and falling behind schedule. Only the Great Forester draft plan has been released for public comment. Additionally, the Tasmanian Government has failed to implement a water management plan steering committee, which would allow formal stakeholder input into the process.

The Tasmanian Conservation Trust is concerned too that the Government is reluctant to adhere to Principle 5 of the national principles for provision of water for ecosystems. In the absence of any finalised water management plans, the trust suggested that the Council reassess the Tasmanian Government's progress against this principle in 2003.

The Dykes (2002, submission 11) argue the following points.

-
- While the Council's 2001 NCP assessment stated that water for the environment was established as EWRs for all water systems, only the water-dependent ecosystems of instream areas of rivers have set EWRs.
 - The tools to provide water for unstressed aquatic ecosystems simply do not exist yet.
 - While accepting that time and resources are required to develop processes and tools, a water management plan for Little Swanport may be 10 years away. As a result, the Dykes are lobbying the Glamorgan Spring Bay Council to seek a water licence to ensure adequate supply of water. The licence would be reviewed when a water management plan is completed.
 - Little Swanport and potentially other subcatchments demonstrate a deterioration in the freshwater availability for EWRs for the estuarine ecosystem. The degradation of the estuary may have already reached an unacceptable level of risk and be contrary to the national principles for the provision of water for ecosystems, due to the cumulative effects of all water takes.
 - The total taking of water from the catchment is not really known, not readily identifiable and not easily calculated.
 - The process of allocating water from a resource (in the absence of water management plans) is *ad hoc*, and lacks transparency to recognise EWPs for the many dependent ecosystems inextricably linked to the water resource.
 - The quality of coastal and marine water depends on land management practices and activities in the catchment.
 - A case study for the Little Swanport Estuary was provided in relation to principles 6 and 9 of the national principles for the provision of water for ecosystems.
 - While the Tasmanian Water Development Plan states as an objective:

Ensure the assessment of water development proposals takes account of the long-term sustainability of the proposed use, for example, by ensuring irrigation proposals address salinity and soil management issues. (Department of Primary Industries and Environment 2001, p.8)

the Water Management Act is deficient in that it does not provide the necessary head of power to enable the achievement of the legislation's intent. Other resource management systems in Tasmania, such as marine farming, have the power to impose management controls and licence conditions.

Discussion

The Council has reviewed the Armstrong consultancy and has some concerns with the report and the possible direction Tasmania may be taking in relation to the determination of EWPs in water management plans. The draft Great Forester plan is the first water management plan that has been developed and will be used as a precedent in establishing the direction for the development of all other water management plans.

The socio-economic study conducted by Armstrong Consulting is not considered to be a robust analysis of the issue. The study is based on interviewing only three irrigators in the catchment and may not, therefore, be representative. The return of \$1 000 per megalitre seems to be high relative to returns earned elsewhere, and the extrapolation of losses to the State seems somewhat tenuous.

Furthermore, the report contains the following:

While there was support for the concept of environmental flows, there was not support for the level proposed for the Great Forester. In part, this was because the evidence for increased flows was intangible and the scientific procedures to establish the required flow is complex and was not understood...Irrigators asked why they should meet the full costs of providing the increased environmental flows, a community benefit. (page 1)

and

while acknowledging and supporting the need for environmental flows to be identified, the three landholders did not accept that the increased requirements proposed for the environment were justified. It was their view there needs to be clear demonstration that the streams are degraded as a result of irrigation, and that reducing the present allocations for summer irrigation will ameliorate any such degradation. (page 7).

The report argues the percentage of water available with a reliability of 90 per cent is reduced from 82 per cent now to 39 per cent of the direct take requirement to fully irrigate. The costs of obtaining water from other sources such as building additional storages, purchasing other allocations, groundwater, and water efficiency savings are prohibitive.

The report summarises the following as key issues and conclusions:

- there are difficulties in the region in understanding the size of the threat to water availability;
- stakeholders question the need to reduce water availability;
- there is reluctance to change enterprises;

-
- land values may be threatened;
 - the logical option is to increase storage through capturing winter flow or large community dams;
 - improving the efficiency of water use would be expensive and the prospects for improving efficiency are limited;
 - “Why should I pay for the costs of the environment” when it is the community’s problem;
 - the impact of plantation forests is a concern; and
 - the regional economic impacts are unacceptable.

The bottom line of the report is that the provision of environmental flows, of the dimension proposed in the draft water management plan, will result in higher costs, significant capital infrastructure and/or reduced profitability and should not be pursued. The EWPs contained in the draft plan are therefore to be reviewed in light of this study. There is general agreement that more monitoring should be done (including metering) to determine accurate information on current usage. A working group of major stakeholders has been formed to further consider the plan.

The Council is highly concerned at an issue that has emerged across a number of jurisdictions in this assessment, namely, the use of socio-economic studies based on protecting current consumption putting off or watering down the legitimate needs of the environment, resulting in ongoing environmental degradation.

Tasmania has confirmed that there is a potential for socio-economic assessments to modify the phasing in of EWPs based on monitoring, adaptive management, and agreement with catchment communities. It is the Council’s view that the environment needs what the environment needs. As per the original Great Forester plan, EWPs need to be set and protected with high levels of surety.

The Council also does not accept the argument that the science for the environment has to be perfect before environmental provision are made, or proof obtained of causal degradation. All governments are committed to the precautionary principle. This states that in order to protect the environment, a precautionary approach to water allocations shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing measures to prevent environmental degradation.

In relation to the Dykes submission, the Council established that the timing of the water management plan for Little Swanport has been brought forward in recognition of the importance of estuarine values. The Tasmanian Government has placed an initial emphasis on determining EWRs for low flows in summer where systems may be considered stressed. The Little

Swanport water management plan will be used as a model to expand the EWR requirements to consider estuaries in other parts of Tasmania.

Assessment

While an examination of progress shows that the timeframes for achieving formal water management plans have blown out in some cases, Tasmania has advised that it is confident the program will be delivered by the 2005 deadline. However, a number of plans are awaiting finalisation of the Great Forester plan as a precedent for how final plans should be implemented.

The 2001 outstanding issue has not been met. The Great Forester plan is, however, still a draft for an unstressed river and the Council needs to ascertain the extent of the proposed changes to the draft to finalise the first of Tasmania's water management plans.

Given the precedent value of the Great Forester plan, the Council is of the view that another assessment against this principle needs to occur in the 2003 NCP assessment to assess the final plan and the direction Tasmania proposes to take to meet its CoAG obligations. It is likely that the final Meander water management plan may also be available for this assessment. The Council does not want to see EWPs and the water management plan process diluted by the inappropriate use of socio-economic studies.

Finally the Council has confined itself in this assessment to reassessing outstanding issues with regard to principle 5. In relation to the case study provided by submission 11, the Council will next assess Tasmania's progress against all of the national principles for provision of water for ecosystems in the 2004 NCP assessment.

Environment and water quality: integrated catchment management

Outstanding issue: Tasmania is to demonstrate developments concerning the State Natural Resource Management Strategy.

Next full assessment: The Council will assess integrated catchment management in detail in 2003, by which time the Council will expect that Tasmania will have implemented reforms planned in 2001 and resolved any outstanding issues.

Reference: Water reform agreement, clauses 6(a-b) and 8(b-c)

Background

In 2001, the Council found Tasmania had met minimum NCP commitments. At that time, the major development in integrated catchment management in Tasmania was a proposal to develop a State Natural Resource Management Strategy. The strategy will be used to coordinate the development of

catchment management plans at the regional level. Tasmania will seek formal accreditation of these plans under the National Action Plan on Salinity and Water Quality.

The State strategy was due for completion by the end of 2001. Given the importance of the strategy to Tasmania's integrated catchment management approach and arrangements under the National Action Plan on Salinity and Water Quality, the Council undertook to review developments concerning the State Natural Resource Management Strategy in the 2002 NCP assessment.

Tasmanian arrangements

Following extensive consultation with stakeholders, the Tasmanian Government finalised and endorsed the Tasmanian Natural Resource Management Framework in February 2002. The framework covers issues such as administrative arrangements at State and regional levels, proposed legislation, natural resource management principles and priorities, and integration with relevant statutory and nonstatutory instruments. The framework is available through the Department of Primary Industries, Water and Environment's website (www.dpiwe.tas.gov.au).

The framework sets out the State's priorities, including water management. A coordinating Natural Resource Management Council of 16 members will advise the Government on matters including natural resource management priorities, the accreditation of regional strategies, the effectiveness of the implementation of these strategies, and the implementation and administration of funding programs. It also will promote the natural resource management principles and establish communication mechanisms with regional bodies and among stakeholders. The framework includes a set of interim State priorities, which the Tasmanian Natural Resource Management Council will review within 12 months of its establishment.

Three regional committees — with regions that share the boundaries of the three local government regional associations (the Cradle Coast Authority, the Northern Tasmanian Municipal Organisation, and the Southern Tasmanian Councils) — will sit under the Natural Resource Management Council. Regional committees will link local and State natural resource management activities, and provide for integration and coordination within their regions. They will identify regional priorities and prepare and monitor regional natural resource management strategies within 12 months of establishment. These strategies must include appropriate standards and targets, consistent with national natural resource management objectives, and meet accreditation criteria under the National Action Plan on Salinity and Water Quality. Each regional committee will comprise 12 members.

Tasmania has initiated a large number of catchment planning activities in previous years notwithstanding the absence of a formal overarching integrated catchment management policy or natural resource management strategy at the State level. The Department of Primary Industries, Water and

Environment has provided expertise and guidance in the development of these plans to ensure they are consistent with the sustainable development criteria of the resource management planning system. Tasmania provided the Council with a copy of a monthly newsletter on the development of local government partnership arrangements.

Tasmania expects that the existing plans will form the basis of the regional natural resource management plans to be developed under the Tasmanian Natural Resource Management framework and formally accredited under the accreditation system being developed as part of the National Action Plan for Salinity and Water Quality. These regional plans are expected to be completed by August 2003.

Tasmania has provided a timetable (shown in table 7.6) for progressing the implementation of the framework.

Table 7.6: Implementation of the Natural Resource Management Framework

<i>Action</i>	<i>Expected date for completion</i>
Final passage of legislation through Parliament	July 2002
Establishment of regional natural resource management committees	End of August 2002
Establishment of Tasmanian Natural Resource Management Council	Mid-September 2002
Development of regional Natural Resource Management strategies	12 months from establishment of the regional committees (approximately the end of August 2003)

Source: Government of Tasmania (2002, unpublished)

Discussion and assessment

Since June 2001, the final Tasmanian framework has been released and draft legislation is out for public comment. Tasmania provided the Council with a copy of the final framework, which identifies water reform as a priority area, and a copy of the draft Natural Resource Management Bill 2002. The Bill was developed to provide the enabling legislation for the implementation of the framework. The legislation provides for the establishment, roles and functions of the Natural Resource Management Council and the regional committees, and for accreditation of regional strategies. A full review of the framework will occur after five years. The Tasmanian Parliament is to consider the Bill during the spring session.

Tasmania has provided a discussion of the integrated catchment management vision for the framework, along with the next steps for implementation and timeframes. Tasmania is on track to have regional strategies completed and in place by mid-2003. The Council is mindful that Tasmania signed an intergovernmental partnership agreement with the Commonwealth to

implement integrated catchment management reforms in priority catchments as part of the National Action Plan on Salinity and Water Quality.

The Council is satisfied that Tasmania has met the outstanding commitment for the 2002 NCP assessment. It will assess compliance in integrated catchment management reforms for all States in the 2003 NCP assessment.

Progress report issues

Full cost recovery: bulk water services

Progress report: Tasmania is to demonstrate progress in the application of appropriate asset management arrangements by bulk water service providers. Where an annuity approach is not introduced, the use of depreciation will need to be consistent with CoAG commitments

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clauses 3(a) and (c)

Background and Tasmanian progress

For the 2001 NCP assessment, the Council supported progress by the bulk water providers in gaining a clearer picture of the medium to long-term demand and the expenditure on assets needed to meet that demand. The Council also supported the identification of appropriate annuity payments to meet demand, as the forward-looking approach to asset management. The Council accepts that appropriate use of depreciation can lead to outcomes consistent with CoAG commitments. It concluded that it would look for evidence of continued progress in this area in future assessments. Where the annuity approach is not introduced, the use of depreciation would need to be consistent with CoAG commitments. Tasmania has not provided the Council with any further information on this issue for the 2002 NCP assessment.

Full cost recovery: externalities

Progress report: Developments in factoring externalities into pricing by urban service providers

Next full assessment: The Council will assess urban pricing reform progress in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Tasmanian progress

The CoAG pricing guidelines require externalities to be incorporated into prices. The Council recognises that this a complex and difficult area, particularly in the urban sector. It views the first step as looking for prices to reflect an appropriate proportion of the costs of mitigating environmental problems of water use. The more advanced stage is a holistic approach to dealing with externalities, where pricing is only one component. As noted by the High Level Steering Group on Water (2000), externalities need to be addressed using a 'portfolio of decision tools'.

The Urban Water Pricing Guidelines for Local Government in Tasmania (revised March 2001) stated that externalities:

...refer to costs imposed on, or incurred by, entities other than the council, for the prevention or mitigation of environmental damage, and recovered from the council through the imposition of environmental levies or licence fees. These externality costs should only be included where they are actually incurred and paid by the council.

The Tasmanian Government asked local governments to provide this information on externality charges relating to the 2000 financial year. The Government Prices Oversight Commission was to undertake an independent assessment of whether the cost recovery and pricing policies achieve NCP obligations. This assessment was to be compiled and undertaken for inclusion in the 2002 NCP assessment.

The Government Prices Oversight Commission audit reports limited consideration of externality costs by local governments. The only Local governments to report externality costs in determining the limits of full cost recovery are Kentish and Northern Midlands for wastewater services, and Huon Valley for the upper limit of cost recovery for water services.

Full cost recovery: tax equivalent regimes

Progress report: Developments in the implementation of tax equivalent regimes for metropolitan service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on tax equivalent regimes

Tasmanian progress

For the 2001 NCP assessment, the Government Prices Oversight Commission's 1999-2000 audit of local government full cost recovery performance suggested that a significant number of water and sewerage services made competitive neutrality adjustments. It did not advise, however,

why more extensive competitive neutrality adjustments had not been achieved.

The Urban Water Pricing Guidelines for Local Government in Tasmania (revised March 2001) contain instructions for including taxes and tax equivalents when determining the lower and upper limits of full cost recovery:

For the lower limit, income tax equivalents are explicitly excluded. For the upper limit, income tax equivalents should, in principle, be included. However, they are implicitly brought to account through the cost of capital which is assessed on a pre-tax basis; and

Competitive neutrality costs correspond with the taxes or equivalents component of full cost recovery. These include taxes, guarantee fees and the costs of satisfying regulations which are not imposed on a local government council activity but which would be imposed on a private sector entity. Examples include rates, and State land taxes which would otherwise be payable on local government council water assets.

The commission's audit for 2000-01 indicates that taxes and tax equivalents are being considered in the move to full cost recovery. Tasmania has not provided the Council with details on which taxes and tax equivalents are being applied by each council.

Community service obligations

Progress report: Significant progress in the transparent reporting of community service obligations

Next full assessment: The Council will assess the transparent reporting of community service obligations in 2003.

Reference: Water reform agreement, clause 3(a)(ii)

Tasmanian progress

For the 2001 NCP assessment, Tasmanian local governments commenced reporting to the Department of Premier and Cabinet their water and wastewater community service obligations, as required under the revised Government Prices Oversight Commission guidelines. At that time, almost all local governments reported having no community service obligations. Tasmania noted that this issue would be addressed as part of the audit by the commission.

For the 2002 NCP assessment, Tasmania advised that a letter to all local government councils (February 2002) requested that they apply the principles within the Government's Community Service Obligations Policy and

Guidelines for Local Government, and advise of the existence or otherwise of any community service obligations. Tasmania stated that the local government councils are required to explicitly report community service obligations in the data provided to the Government Prices Oversight Commission.

The commission's most recent audit did not address community service obligations and the Council is not aware of whether Tasmania plans to review or make transparent local governments' compliance with the above requirements.

Submissions

Robert Rockefeller (2002, submission 18) raised the following issues concerning community service obligations. Many local government councils do not meter and monitor own-purpose water and sewerage use. Consumers are subsidising this use, rather than community service obligations being properly identified and transparently reported. Mr Rockefeller's opinion is that local government councils would use between 5 – 10 per cent of water for own-purpose consumption. The lack of identification of community service obligations results in underestimation of revenue in the corporatisation and two-part tariff studies.

Cross-subsidies

Progress report: Identification and transparent reporting of cross-subsidies, particularly among retail and distribution services

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clause 3(a)(i).

Background and Tasmanian progress

For the 2001 NCP assessment, the Council stated that initiatives such as the introduction of two-part tariffs and the consequent elimination of free water allowances are reducing the potential for nontransparent cross-subsidies in Tasmania. The explicit treatment of this issue among retail and distribution services, however, is still in its early stages.

The Council noted in 2001 that it would look for substantial progress by Tasmania in identifying and transparently reporting cross-subsidies, particularly among retail and distribution services for the 2002 NCP assessment. It made specific reference to property-based charges, free water allowances, and the absence of trade waste charges as causes of potential cross-subsidisation among classes of customers.

Tasmania has not undertaken an open and transparent analysis to identify levels of cross-subsidisation. The establishment of a more open and transparent price setting process, however, could address the Council's concerns about the transparency of cross-subsidies.

The Council notes that many consumers in Tasmania face property-based charging regimes for water and waste water services, and that this increases the risk of cross-subsidisation. If these regimes are to continue, any resulting cross-subsidies must be transparently reported. Tasmania has not provided a proposal to the Council on how it intends to identify and report these remaining cross-subsidies.

Submissions

Robert Rockefeller (2002, submission 18) raised the following issues concerning cross-subsidisation. Southern Tasmanian councils, including the City of Hobart, do not transparently identify cross-subsidies or community service obligations. Water users are likely to be subsidising rate payers. A cross-subsidy exists between residential and nonresidential consumers, as well as between large and small users. Local government councils should identify and transparently report this situation if they continue to charge for water on a basis that does not reflect consumption. An independent regulator may be able to assist local government councils to meet this commitment. (For further information with regard to cross-subsidies by Hobart City Council, see the section on consumption-based pricing).

New rural schemes

Progress report: Governments have agreed that all investments in new rural water schemes or extensions to existing schemes should be undertaken only after appraisal indicates that the scheme/extension is economically viable and ecologically sustainable. Tasmania is to provide a progress report on the status of new dam projects, such as the Meander Dam, against Tasmania's Water Development Plan.

Next full assessment: The Council will examine government investments in the year in which the government decides to proceed with a new rural scheme, to ensure the twin tests of economic viability and ecological sustainability have been met.

Reference: Water reform agreement, clause 3(d)(iii).

Background

The 2001 State Budget provided \$10 million to finalise a Water Development Plan to recommend the construction of new water storages across the State. The plan was expected to be finalised by the end of 2001. The Tasmanian Government had not yet approved any of the projects identified in the draft plan, so 2001 NCP commitments were met.

Further, the Council found Tasmania's mechanisms for economic and ecological appraisal of new developments met CoAG requirements. In future NCP assessments, it will look for economic and environmental assessments consistent with CoAG's requirement for ecologically sustainable and economic viability once any new dam developments are approved.

In 2001, the Tasmanian Government announced an intention to proceed with the design of the Meander Dam project, 50 kilometres south west of Launceston. The 43-gigalitre dam will inundate 332 hectares of land. It will also supply licensed domestic water users along the Meander River, including town domestic water supplies and environmental flow requirements, followed by other allocated rights and new irrigation rights. A mini hydroelectric power plant will be installed to operate at the site and it will be connected to the State grid. Another objective of the dam is to increase the value of agricultural production. The irrigation area may include the neighbouring catchments of the Rubicon River and Western Creek. This would involve pumping water from the Meander Dam through pipes to the rivers in these catchments, to allow for irrigation of a greater area.

The proposed Tasmanian Meander Dam has been designated a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. A plant species listed under the Act, *Epacris exserta*, was identified in the area to be inundated. Fauna of high conservation status that could be affected by the inundation include wedge-tailed eagles, spotted-tailed quolls and eastern barred bandicoots. Work is under way to identify ways of minimising the impact on threatened species and to develop plans for the species' recovery.

The Council has confirmed that a full statutory decision on whether the Meander Dam will proceed cannot be made until 2 August 2002 at the earliest, when all environmental clearances (including those by the Commonwealth Government under the Environment Protection and Biodiversity Conservation Act) are obtained.

A number of submissions received for the 2002 NCP assessment expressed concern (see below) with the proposed Meander Dam development. The Council will consider and assess these issues in a future NCP assessment if the Tasmanian Government decides to construct the Meander Dam.

Tasmanian progress

Water Development Plan

Tasmania publicly launched the Water Development Plan on 12 August 2001. One of the aims of the plan is to support the Government's objective of doubling the value of Tasmania's primary production over the 10 years to 2008. It identifies key water development opportunities that could benefit from public-private partnership funding arrangements. The 2002 State

Budget allocated an additional \$4.5 million to progress water development in partnership with private enterprise.

The Meander Dam

The Government has assigned the highest priority in the Water Development Plan to the development of the Meander Dam. It has nominated the Rivers and Water Supply Commission as the proponent for the initial stages of development.

Following a public tender process, Hydro Tasmania was selected to act on behalf of the Rivers and Water Supply Commission to carry out a full feasibility study on the Meander Dam. The feasibility study was to consist of engineering, environmental and economic studies, as well as to review the outcomes of previous reports.

Work on the feasibility studies commenced at the end of August 2001 and most of the work was completed in early 2002. The project is currently going through the statutory approval process under the Water Management Act. Given the size and complexity of the proposal, it has been called in for environmental assessment by the Environmental Management and Pollution Control Board under the *Environmental Management and Pollution Control Act 1994*. Under this process, the board directs the Assessment Committee for Dam Construction on environmental issues. The Environmental Management and Pollution Control Act requires the proponent to prepare a Development Proposal and Environmental Management Plan for public exhibition and comment.

The Department of Primary Industries, Water and Environment is responsible for managing infrastructure development projects to ensure the efficient and sustainable supply of water and to guide implementation of the Water Development Plan. This includes progressing specific infrastructure projects such as the Meander Dam to the stage at which an appropriate nongovernment body can take over the project. The department has been involved in managing the feasibility studies, developing the community information program and formulating the Development Proposal and Environmental Management Plan in cooperation with the Rivers and Water Supply Commission.

The latter plan for the Meander Dam was released in February 2002. It included a number of studies. Appendix E, for example, summarises an economic feasibility review of the dam proposal. That report found that preliminary estimates for pumping water into Weston Creek and the Rubicon River indicate a transfer cost of close to \$100 per megalitre. Such a cost is likely to be prohibitive for the intended irrigated dairy use, especially when added to the base Meander Dam water supply price. Unless the capital and operating costs of these two subsidiary schemes can be reduced, the stated demand is unlikely to be realised in practice. Some of the other off-river use also may prove to be too expensive.

In relation to dairy, indicative budgets suggest that a water price of \$50 per megalitre will be required for profitable investment in new irrigation infrastructure. Farmers with infrastructure already in place but with a shortage of water may be prepared to pay up to \$100 per megalitre.

Crop farmers may be able to pay more than dairy farmers, depending on the intensity of cropping being undertaken, the anticipated gross margins, and the required rate of return on any new irrigation facilities. Indicative budgets suggest that prices in excess of \$200 per megalitre could be justified in some cases. In practice, however, a maximum or break-even price for water is likely to be between \$100 and \$150 per megalitre. At this level, total demand may not be sufficiently high.

A follow-up visit with 26 large potential users indicated some potential for further development of on-farm storage. Depending on the efficiency of the site, the effective annual cost of on-farm storage varies from around \$5 to \$100 per megalitre. For farmers with unused sites, these figures will place an upper limit on what they are prepared to pay for water from the proposed scheme.

The report found that if no dam is built, and plans proceed to increase environmental flows and to reduce summer take, then severe economic impacts are likely in the region. Reduced irrigation will mean reduced crop and livestock production, leading to reduced profits and reduced employment. On the other hand, an expansion of irrigation will lead to increased output and employment with significant benefits to the region.

Industry has indicated that increased production opportunities within the Meander Valley would occur through more secure water supplies and that future prosperity of farm businesses will depend on this water. Except in the exceptional years of ideal seasonal conditions or abnormally high market prices, dryland agriculture is unlikely to be the key driver towards increased wealth in the valley in the long term.

During the farm survey, many landholders voiced concern about the current and future environmental health of the Meander River. Some felt this concern so strongly that they believed the dam should be built just as much to deliver higher flow rates in the summer as to provide landowners with additional water for irrigation.

The report also considers the issue of financing the dam proposal. The return on investment calculations are low compared with the range of generally expected returns on investments for other infrastructure projects. Further specification of project risks and the willingness of potential funding sources (for example, the Government, Hydro Tasmania and purchasers of water rights) to accept low or zero rates of return and assume higher levels of risk may alter outside investors' perceptions of the project.

The majority of prices within the proposed pricing range appear to be outside existing market tolerance levels, given the range of investment returns. A commercial viewpoint of the project indicates that the project is not viable

given the economic report on price and demand levels compared with the capital cost of the project and investment rates of return. As demonstrated above, however, an effective ownership structure may provide returns that attract outsider investors.

Appendix N of the development proposal and environmental management plan considers the ecological impact of the Meander Dam proposal on the spotted-tailed quoll. The University of Tasmania completed this work in October 2001. At the regional level, the site represents a significant area of habitat in the local area. At the State level, the site is important within the core distribution range of spotted-tailed quolls in Tasmania. At least half of the remaining number of spotted-tailed quolls live in Tasmania, although significant densities of the species are restricted to the small northern coastal strip. The quoll is listed as vulnerable under the Commonwealth's Environment Protection and Biodiversity Conservation Act.

For three reasons, local population extinction is the likely scenario if the dam proceeds. These reasons are the low quality of surrounding habitat, the intense competition from resident quolls in potential dispersal areas, and increased human contact and human-induced mortality. The Upper Meander catchment is critical to the regional preservation of the species. The dam site is also part of an important wildlife corridor linking eastern and central Tasmania with quoll populations in the Gog Range, Mount Roland and the north coast. There are no viable alternatives other than the protection of this important habitat and population.

The Department of Primary Industries, Water and Environment have indicated the presence of a plant, *Epacris exerta* at the site is significant with regard to the requirements of State and Commonwealth threatened species legislation. The species only inhabits Tasmania and is listed as endangered under the Environment Protection and Biodiversity Conservation Act. There is a significant population at the dam site that would be destroyed if the dam proceeds and a population downstream of the site that may be damaged by altered flow patterns.

Appendix T of the development proposal and environmental management plan contains a proposed Meander water management plan scenario based on the dam proceeding. Development of the Meander water management plan is on hold pending the outcome of the dam approvals process. Tasmania is also considering further options for funding the Meander Dam. The Department of Primary Industries, Water and Environment commissioned an agricultural and economic report to be prepared as part of the Meander Dam feasibility study released in March 2002. Davey & Maynard Agricultural Consulting and Deloitte Touche Tohmatsu Serve-Ag conducted a feasibility study investigating the agricultural and economic aspects of the proposed Meander Dam.

This consultancy concluded that there are good prospects for the scheme proving to be financially viable, based on an anticipated capital cost of around \$30 million and a proposed funding model that includes contributions by Government, an electricity generator and one or more

private investors. The private investor contribution could come partly or wholly from prospective irrigators. The report, however, also contained the following conclusion:

To be financially viable at the anticipated capital cost, the Government contribution may need to be provided with no return. This may be justified on a number of public good benefits, including improvements to environmental flows, flood mitigation, and for broader economic benefits to the region and the State ... A commercial viewpoint of the project on a stand-alone basis indicated that the project requires additional assistance given the economic report on price and demand levels vis-à-vis the likely capital cost and investment returns. (D&MDTT 2002, p.1)

The consultants found that there is sufficient irrigation land along the Meander River to fully use the water proposed and that the potential for salinity appears relatively low.

Potential investors such as the Government, the electricity generator and purchasers of water rights may need to accept lower rates of return and assume higher levels of risk if third party investors are to achieve commercial returns. The feasibility study outlined one possible scenario for funding: based on the cost of the proposed dam and mini hydro scheme of \$29.4 million, the State and Commonwealth Governments could provide \$9.5 million, the electricity generator could provide \$6.3 million and private investors and farmers could provide \$13.6 million.

Based on this scenario, private investors could earn a 7–9 per cent return if the Government accepted a zero return on its contribution, the electricity generator accepted an 11 per cent return on its investment, and farmers were willing to pay \$55–\$75 per megalitre for water. The report recommends a project risk analysis and the development of a project risk matrix to refine the evaluation of investment returns.

Next steps

An application for a permit to commence construction of the Meander Dam was submitted in November 2001 and is being assessed under the statutory processes of the Water Management Act and the Environmental Management and Pollution Control Act. The development proposal has also been designated a controlled activity under the Commonwealth Environment Protection and Biodiversity Conservation Act. Under these legislative processes, final decisions on the statutory environmental approvals for the project are not expected until August 2002.

Tasmania provided the Council with a timetable of the key milestone dates concerning the development of the dam. It called for expressions of interest in the design and construction of the dam in late May 2002 and a decision on the issue of a dam permit will not occur before July 2002. A final decision by the Commonwealth on whether the dam project raises ecological issues under the Environment Protection and Biodiversity Conservation Act cannot occur

under the statutory process before 2 August 2002. On 8 June 2002, the Tasmanian Government advertised for expressions of interest in the design, construction, financing and operation of the Meander Dam. If approval is forthcoming, then Tasmania intends to let the contract for design and construction in August 2002 and aim for construction to be completed by August 2004.

In responding to the consultants report that shows the dam is not financially viable, Tasmania has advised the Council that further work will be done to demonstrate the economic viability of the dam proposal, including the additional benefits the dam will generate for environmental flows and the public good. The Government is aware of its obligations in terms of CoAG water reform to show that any new investment is economically viable and ecologically sustainable.

Based on the above timeframe, the development of the Meander Dam and all issues raised by submissions will be a significant 2003 NCP assessment issue.

Other dam proposals

In May 2002, the Tasmanian Government announced that two further rural consultancies are under way to focus on preliminary design works and environmental scoping for specific rural water development proposals.

- In the Circular Head region, improved water availability may provide strategic benefits for the dairy industry, with greater opportunities for milk production via an increased area of irrigated pasture. A 5-gigalitre storage at Edith Creek (a tributary of the Duck River) could provide summer flow for Edith Creek and the Lower Duck River for irrigation.
- In the Central Highlands region, improving water availability by taking winter and/or flood flows into storage to supplement or increase irrigation would provide benefits for agricultural production and could provide environmental benefits for Lake Crescent and Lake Sorell. An 18-gigalitre dam and the building of a canal or pipelines at Christian Marsh on the Shannon River is proposed to enable distribution in the Clyde River.

Submissions

The Tasmanian Conservation Trust (2002, submission 7) is highly concerned with the proposed Meander Dam development and argues that the Government seems committed to the construction of the dam without first assessing its economic viability and ecologically sustainability. The trust argues the following points.

- The dam would have significant impacts on two nationally listed threatened species: spotted-tail quoll and the South Esk heath subspecies *Epacris*. No effective mitigation measures have yet been proposed and, in at least one case, the advice of expert consultants has been ignored.

- No evidence of economic viability of this proposal has been provided. At the time of writing, the full economic feasibility study is still not available, with only eight days remaining in the public submission process.
- The draft development proposal and environmental management plan states that ‘the majority of prices within the theoretical pricing range appear to be outside existing market tolerance levels’ (p.4), and ‘a commercial viewpoint of the project on a stand-alone basis indicates that the project is unviable given the economic report on price and demand levels vis-à-vis the capital cost of the project and investment rates of return’ (p.4).
- The area immediately upstream of the proposed dam suffers from severe erosion and is considered Tasmania’s most degraded sub-alpine area.
- The proposal is proceeding independently of a water management plan for the Meander catchment. Additionally, a major justification for the dam is to provide environmental flows in the Meander River. There is significant unlicensed take from the river. The proposal is an attempt by the Tasmanian Government to avoid its obligations under principle 5 of the national principles for the provision of water for ecosystems in this catchment.
- The Government is acting as both the proponent and assessing body.

Institutional reform: structural separation

Progress report: Implementation of mechanisms to improve the transparency of reporting local government performance, including service charters and complaints handling mechanisms and the separation of service provision and regulation and the role of the Rivers and Water Supply Commission.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6

Background

In the 2001 NCP assessment the Council identified two areas of institutional reform where there were still outstanding issues for Tasmania. These included:

- **transparency in the setting of prices and service standards from service provision among local government service providers; and**
- **separation in the management of resource, water allocation and environmental regulation from service provision by the Rivers and Water Supply Commission.**

Local government

For local government retail service providers the Council has recognised that the size of many of these water businesses means that the best approach to meeting the institutional reform commitments is to provide for accountability and transparency in setting and reporting prices and service standards.

In 2001, the Council raised concerns about transparency in price setting and, in particular, whether information would be publicly available in a form that allows comparisons between local governments. In response, Tasmania committed to taking a proposal to the Premier prior to the 2002 NCP assessment to improve the transparency of reporting on local government performance. The Council noted that this proposal would need to address the issues of CSOs and cross-subsidies as well as pricing.

The Council has also raised concerns about the regulation of service standards by local governments. The 2001 NCP assessment noted that Tasmania had commenced a process to improve the transparency of the customer service standards of local government water businesses. Tasmania had informed the Council that in the six months following that assessment it would work with local governments to develop customer service charters and complaints handling processes.

Rivers and Water Supply Commission

The Minister for Primary Industries, Water and Environment is responsible for resource management and water allocations. Currently the same Minister is one of the shareholders of the Rivers and Water Supply Commission. This can raise potential conflicts because the processes of water resource planning and ensuring compliance with water management requirements can affect the commercial viability of the Rivers and Water Supply Commission's business. To address these issues the Council is looking for procedures and other measures to ensure potential conflicts of interest are minimised.

The Council noted that in its 2002 assessment it would look at the progress and outcomes of the water planning process and the scope and monitoring processes for the Rivers and Water Supply Commission's Operating Licence, to determine whether these mechanisms are delivering sufficient transparency to minimise any potential conflicts of interest.

Tasmanian progress

Tasmania has not provided the Council with any further information on what mechanisms it is considering for improving the transparency of pricing, CSO and cross-subsidy information, when a proposal was taken to the Treasurer or when it will be implemented. To the Council's knowledge, there has been no progress on this issue.

In March 2002, Tasmania informed the Council that the Premier's Local Government Council is developing a complaints handling mechanism, a service charter and access to the ombudsman. The Council has not been provided with any detail on these initiatives and progress appears to be behind the six months suggested by Tasmania in 2001.

In its 2002 NCP annual report Tasmania stated that the Rivers and Water Supply Commission licence is not yet complete and the terms and conditions need to be finalised over the next few months. Tasmania has noted that the licence will cover monitoring and enforcement.

Submissions

The Tasmanian Conservation Trust (2002, submission 7) argues 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.

Robert Rockefeller (2002, submission 18) raises issues about the structural separation of water service providers in Tasmania. His comments focus on a concern that there is insufficient transparency in the regulatory framework, the Government Prices Oversight Commission's powers are too narrow and the State and local governments have not separated regulation from the operation of water and wastewater businesses. Specifically he argued that:

- there is insufficient rigor and transparency in local government cost effectiveness studies of two-part water pricing; and
- retail water services should be regulated by the Government Prices Oversight Commission and the absence of such regulation is resulting in inappropriate approaches to asset valuation. This is leading to levels of cost recovery that are not based on appropriate pricing guidelines, a lack of transparency in CSOs and inefficient and nontransparent cross-subsidies.

Institutional reform: devolution

Progress report: Developments in devolving irrigation scheme management.

Next full agreement: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6(g)

Background and progress

The Council's 2001 NCP assessment reported that Tasmania had shown commitment to working through the issues for devolution and was engaged in processes to deliver the commitment. The institutional arrangements, however, had not been finalised and two of the three schemes had chosen to delay their decision until research and information was available on the Cressy–Longford process.

While the approach to devolution has not been finalised in all schemes Tasmania has made sound progress over the last year. Following an investigation of the alternative management options, the Rivers and Water Supply Commission entered into negotiations with elected representatives of the Cressy–Longford Irrigation Area, and funded independent financial, business and legal advice for Cressy–Longford representatives.

It was originally agreed that responsibility for day to day scheme operations, administration and management, including price setting, staff management, and ownership of the operational assets would be handed over in March 2001. Prior to the proposed handover date, however, the Australian Tax Office retracted previous advice that the Cressy–Longford Irrigation Area would qualify as a tax free entity. Given the new irrigator association is now considered to be a taxable entity, a review of the association's business plan was necessary and hence the handover was postponed until 1 April 2002.

Negotiations commenced with Winnaleah Scheme Irrigators at a meeting in August 2001 for handover of the Winnaleah Scheme on similar grounds to that agreed with Cressy-Longford. Discussions with Winnaleah were delayed during the consideration and settlement of the tax status of Cressy-Longford. The process of devolution is continuing and irrigators appointed new scheme managers for the Winnaleah Scheme in September 2001.

Following settlement with Cressy-Longford and Winnaleah Schemes, negotiations with South–East Scheme Irrigators are expected to commence promptly.

Attachment 1: 2002 Environmental flows/water for ecosystems impact matrix

<i>Catchment</i>	<i>Water Development Priority</i>	<i>Water Quality Priority</i>	<i>Water Use Priority</i>	<i>Instream Ecology Priority</i>	<i>Estuary Conservation Status</i>	<i>Industry Priorities</i>	<i>NCC Priority</i>	<i>NCC TIMELINE</i>	<i>Mar 2002 Work Status</i>
Brid R	H	3	H	5	Degraded	IRRIGATION	1	Aug-99	Completed.
Elizabeth R	H	1	H	5	Critical	HYDRO TAS	1	Jul-99	Completed.
Esperance R	L	4	H	3	Moderate	INDUSTRY	1	n/a	Completed.
Gt Forester R	H	3	H	5	Degraded	IRRIGATION	1	Nov-99	Completed.
Liffey R	H	1	H	5	Critical	HYDRO TAS	1	Aug-99	Completed.
Macquarie R	H	1	H	5	Critical	HYDRO TAS	1	Dec-99	Completed.
Meander R	H		H	5	Critical	HYDRO TAS	1	n/a	Completed.
North Esk R	H	1	H	5	Critical	WSUPPLY	1	Aug-99	Completed.
Pipers R	H	3	H	5	Moderate	IRRIGATION	1	Aug-99	Completed.
St Patricks R	H	1	H	5	Critical	WSUPPLY	1	Aug-99	Completed.
Tooms R	H	1	H	5	Critical	HYDRO TAS	1	Jul-99	Completed.
Upper Mersey R	H	5	H	5	Badly Degraded	HYDRO TAS	1	n/a	Completed.
Upper Ringarooma R	H	4	M	6	High	IRRIGATION	1	Aug-99	Completed.
South Esk R	H	1	H	5	Critical	HYDRO TAS	1	n/a	Completed.
Ansons R	L		L	5	Moderate	IRRIGATION	2	Mar-00	Completed.
Boobyalla R	H		L	5	High	IRRIGATION	2	Mar-00	Completed.
Clyde R	H	6	H	1	Moderate	INDUSTRY	2	Jun-00	Completed.
Duck R	H	2	M	1	Degraded	IRRIGATION	2	Dec-00	Completed.

<i>Catchment</i>	<i>Water Development Priority</i>	<i>Water Quality Priority</i>	<i>Water Use Priority</i>	<i>Instream Ecology Priority</i>	<i>Estuary Conservation Status</i>	<i>Industry Priorities</i>	<i>NCC Priority</i>	<i>NCC TIMELINE</i>	<i>Mar 2002 Work Status</i>
George R	L	3	L	5	Degraded / Moderate	WSUPPLY	2	Mar-00	Completed.
Gt Musselroe R	H		L	5	Moderate	IRRIGATION	2	Mar-00	Completed.
Lower Mersey R	H	5	H	5	Badly Degraded	HYDRO TAS	2	Mar-00	Completed.
Lower Ringarooma R	H	3	M	5	High	IRRIGATION	2	Jun-00	Completed.
Lt Forester R	M		M	5	Moderate	-	2	Jun-00	Completed.
Lt Musselroe	H		L	5	High	-	2	Aug-00	Completed.
Mountain R	H	4	H	1	Moderate	IRRIGATION	2	Mar-00	Completed.
Nichols Rvt	H	4	H	5	Degraded	WSUPPLY	2	Sep-00	Completed.
Tomahawk R	H		L	5	Moderate	-	2	Jun-00	Completed.
Blythe R	H	2	M	2	Degraded	INDUSTRY	3	Dec-01	Completed.
Browns	L	4	M	5	Moderate	-	3	Dec-01	Completed.
Cam R	H	2	M	1	Badly Degraded	WSUPPLY	3	Dec-01	Completed
Coal R	H	6	H	1	Degraded	INDUSTRY	3	Jun-01 . Revised to Aug 2003	Fieldwork completed.
Emu R	H	2	M	1	Badly Degraded	INDUSTRY	3	Dec-01	Completed.
Leven R	H	5	L	1	Badly Degraded	IRRIGATION	3	Dec-01 . Revised to Sep 2003	Part complete.
Lt Swanport R	H	6	M	2	Moderate	IRRIGATION	3	Jun-01	Completed.
Montagu R	H	2	M	1	Moderate	IRRIGATION	3	Dec-01 . Revised to Dec 2003	Part complete.
NW Bay Rvt	H		H	2	Badly Degraded	IRRIGATION	3	Mar-01	Completed.
Rubicon R	H	5	H	5	Degraded	IRRIGATION	3	Dec-01 . Revised to	Under analysis.

<i>Catchment</i>	<i>Water Development Priority</i>	<i>Water Quality Priority</i>	<i>Water Use Priority</i>	<i>Instream Ecology Priority</i>	<i>Estuary Conservation Status</i>	<i>Industry Priorities</i>	<i>NCC Priority</i>	<i>NCC TIMELINE</i>	<i>Mar 2002 Work Status</i>
								Jun 2002	
Swan	H		H	5	High	IRRIG/WS	3	Jun-01	Completed.
Welcome R	H	2	M	1	Moderate	-	3	Dec-04 . Revised to Dec 2003	Some field work completed.
Derwent R	M	6	H	5	Moderate	HYDRO TAS	4	Jun-06 . Revised to Jun 2002	Some field work and analysis completed.
Forth R	H	5	L	5	Degraded	HYDRO TAS	4	Jun-06	
Gordon R	L	8	H	5	Moderate	BASSLINK	4	Jun-03	Completed.
Jordan R.	H		H	1	Moderate	IRRIGATION	4	Dec-02 . To be revised	Novel approach required.
Lake R	H		H	1	Critical	HYDRO TAS	4	Jun-04	Part complete.
Ouse R	H	6	H	5	Moderate	HYDRO TAS	4	Jun-06	Some field work completed.

Source: Government of Tasmania (2002, unpublished)

8 Australian Capital Territory

Outstanding assessment issues

Full cost recovery — urban

Outstanding issue: The Council is to revisit the ACT Government's dividend policy to address whether a payout ratio of 100 per cent is consistent with CoAG commitments.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(a)

Background

The ACT Electricity and Water Corporation (ACTEW) — a Government-owned corporation — paid a dividend of \$65.7 million to the ACT Government in 1999-2000. This payment amounted to the whole of ACTEW's profits in that year. The 1998-99 payment of a \$45.7 million dividend also accounted for all of ACTEW's profits. The ACT Government advised that the dividend target from 1997-98 to 2000-01 was to be based on 100 per cent of after-tax profits, although the actual dividend payment was subject to the circumstances and trading results of each year.

For the 2001 National Competition Policy (NCP) assessment, the National Competition Council raised concerns that limited reserves were being retained within ACTEW for future investment and growth. The Council was satisfied with the measures in place to value and maintain existing assets, but is concerned that a payout ratio of 100 per cent does not leave funds within the business for new investment, provision for population growth, or unexpected investment (such as in the case of facility breakdown). In these circumstances, ACTEW would have to increase its debt or the Government would have to provide an injection of capital.

ACT arrangements

ACTEW paid a dividend of \$15.2 million to the ACT Government in 2000-01 for its water service operations. This again equates to a dividend payout ratio

of 100 per cent of after-tax profits [earned in respect of water operations]. Dividends are capped in that they can only be paid out of profits and prior retained earnings.

Discussion

Given that the 100 per cent dividend distribution arrangements for ACTEW remain, the Council has considered whether the lack of retained earnings within the business is affecting ACTEW's ability to manage future growth or provide for new unanticipated investment. The Council is looking to ensure the ACT's dividend policy is consistent with the Council of Australian Governments (CoAG) guidelines that require dividends, where provided, to reflect commercial realities and simulate a competitive market outcome.

Competitive capital structure

The ACT argues that dividend policy should be driven by ensuring that a Government business enterprise has a competitive capital structure. ACTEW's planned debt ratio for the end of 2001-02 is 38 per cent and has been much less in past periods. The 100 per cent dividend policy has assisted in moving ACTEW's capital structure closer to an efficient level based on industry practice. The ACT reports that the industry average debt ratio for utilities in the water/electricity industry is 40 per cent for 2001-02. Considering this argument, the Council asked whether the 100 per cent dividend distribution policy would remain standard once the capital structure was optimised. The ACT states that the dividend policy will be reviewed, accounting for ACTEW's operational cash flows and capital requirements where appropriate.

Role of the Independent Competition and Regulatory Commission

The Independent Competition and Regulatory Commission considers ACTEW's long term capital expenditure needs (including the need for new investment to accommodate growth) when setting prices for regulated services (which include all water and wastewater services). The regulatory regime requires assets to be maintained at a minimum standard, with significant penalties (including loss of license) for noncompliance.

The *Independent Competition and Regulatory Commission Act 1997* provides that in determining price directions for regulated industries:

...the commission shall have regard to the borrowing, capital and cash flow requirements of persons providing regulated services and the need to renew or increase relevant assets in the regulated industry. (s. 20)

Sources of finance for further capital investment

The ACT argues that ACTEW has numerous options for financing changes to its capital base.

- ACTEW can seek adjustments to its dividend payout ratio, subject to a material change in ACTEW's costs or revenues for any year. The ACTEW Board recommends a final dividend to voting shareholders (the Chief Minister and Treasurer) that may vary the standard 100 per cent dividend distribution. The voting shareholders have final discretion regarding the level of ACTEW's dividend after considering the advice of the ACTEW Board.

The ActewAGL joint venture conducts most of ACTEW's business operations including managing ACTEW's water and sewerage businesses via contract. The joint venture has several partnership agreements, one of which provides for partners to agree to the distributions to be made in each financial year. In the absence of any agreement, the partnership must distribute all surplus funds over operating and capital expenditure requirements. These provisions ensure surplus funds are distributed to ACTEW and AGL.

- ACTEW can use funds accumulated in the form of deferred income tax equivalents. The ACT argues that these funds effectively provide ACTEW with a source of cash for future capital investments. The combination of tax losses and accounting profits has led to it accruing a provision for deferred income tax equivalents.
- ACTEW can increase its borrowings.

Assessment

The Council remains concerned about ACTEW's dividend payout ratio of 100 per cent of after tax profits. There are, however, some mitigating factors relevant to the Council's assessment:

- The practice of distributing all earnings does not exceed the requirements of the *Corporations Act 2001*, under which dividends may be paid only out of current year profits and accumulated retained profits.
- The Independent Competition and Regulatory Commission provides price directions that are set with regard to, amongst other things, the long-term capital expenditure needs of the business.
- Governing legislation and licences for ACTEW set appropriate standards (including investment in replacing, upgrading and maintaining the infrastructure needed to provide services at those standards) and enforceable penalties for any breach of a service standard.

- The ACT has stated that it is using high dividend payouts as a means of capital restructuring. Whilst this practice is not ideal because of the lack of transparency, it is one way of raising ACTEW's debt ratio from the low levels of the past.

Given these considerations, the Council is satisfied that the ACT's current dividend policy is not inconsistent with the CoAG commitment. The approach, nevertheless, is not ideal, and there is a question whether full distributions should continue in the longer term once ACTEW's debt ratio is more in line with the market average. The Council will revisit this issue in 2003 when a broad review of dividend policy of all jurisdictions will take place.

Consumption-based pricing

Outstanding issue: The ACT is to address concerns that ACTEW does not have trade waste charges.

Next full assessment: The Council will assess urban pricing reforms in 2003.

Reference: Water reform agreement, clause 3(b)

Background

ACTEW supplies metropolitan water and sewerage service. ACTEW and AGL recently formed a joint venture (ActewAGL) to improve the performance of the Territory's water, wastewater and energy services. Under the new partnership arrangements, ACTEW retains the ownership of water and wastewater assets. Service delivery is contracted to ActewAGL.

For 2001, the Council understood that ACTEW did not levy trade waste charges. An application could be made to ACTEW to discharge trade waste into the wastewater system, and ACTEW could place conditions on the applications' approval to ensure no adverse effect on the fabric or operation of the system. These conditions could include:

- limiting the nature, components and characteristics of the waste;
- limiting the total daily and average peak volume that may be discharged;
- requiring that a specific waste treatment or management process be used; and
- requiring storage facilities be used to control the rate of discharge.

At that time, the Council strongly urged the ACT to move towards a trade waste charge. The absence of such a charge, reflecting both the quantity and quality of the waste, provides scope for nontransparent cross-subsidies and has the potential to undermine the CoAG-endorsed principle of consumption-

based pricing. The Council said it would look for this matter to be substantially addressed in 2002.

ACT arrangements

For the 2002 NCP assessment, the ACT Government reports that a systematic trade waste charge based on volume and toxicity of waste has not been introduced. ACTEW had previously reviewed the need for a trade waste charge and found no significant cost impact from trade waste discharges. This stems from a predominantly domestic and light commercial consumer base finding, and the absence of a substantial industry. ACTEW's trade waste approvals system is now operational as an asset protection mechanism. In a few instances, however, ACTEW has applied a specific charge tied to the volume and toxicity of the discharge.

Three large waste disposal sites have special trade waste contracts. These activities include run-off from a municipal tip, winery waste and water discharged from swimming pools. In each case, the site operators have cooperated with ActewAGL to reduce discharges and control the nature of discharges by on-site pre treatment or by timing the discharge to reduce the level of impact on the sewerage system and treatment plant to acceptable levels consistent with the contract charges paid by those customers.

A number of other major producers of waste are required to either pre-treat or prevent prohibited discharges to the sewer under an approvals process that is being reviewed.

Discussion

The absence of a trade waste charge, reflecting both the quantity and quality of the waste, provides scope for nontransparent cross-subsidies and has the potential to undermine the CoAG-endorsed principle of consumption-based pricing. ACTEW has not yet fully considered a systematic trade waste charge tied to quantity and quality of waste.

The ACT continues to argue that trade waste type discharges may be more effectively and economically managed via a sewer acceptance charge where these users contribute to the cost of discharge monitoring and any extra treatment costs arising from trade discharge to sewers. The ACT Government states that a systematic trade waste charge would need to be implemented on the basis that such a pricing approach would yield an improvement in economic efficiency via better resource allocation.

The Council agrees with the ACT view that the Government needs to properly evaluate the merits of such a charge before introducing a systematic trade waste charge in the ACT. The ACT argues that this approach cannot in any way be construed as undermining the principle of consumption-based pricing espoused in the CoAG pricing framework. It requires a proper economic

analysis of the costs of carriage and treatment of trade wastes, and an awareness of alternative disposal and treatment options.

Overall, the Council has not been provided with sufficient information to verify that the absence of a trade waste charge does not provide scope for nontransparent cross-subsidies or undermine the CoAG-endorsed principle of consumption-based pricing.

While continuing to operate under a trade waste approval system, the ACT Government committed to reviewing the merits of a systematic charging arrangement for trade waste. The time period suggested for completing this task is 18 months. The analysis will provide evidence of whether major revision of sewerage charging arrangements, with increased use of trade waste agreements for business sites, improves economic efficiency via better resource allocation.

The Council has advised the ACT Government that the 18-month period to review charging arrangements for trade waste extends beyond the 2003 NCP assessment, when full implementation of urban pricing reform is expected. To meet the reform commitments for the 2003 NCP assessment, the ACT will need to have independently analysed and developed its systematic charging arrangements for trade waste charges, and have a clear implementation strategy by June 2003.

Assessment

The Council remains concerned that the ACT has 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. The potential exists for these waste dischargers to pay less than the incremental costs they impose on the system, and accurately identifying and reporting any cross-subsidies arising from current pricing arrangements would be very difficult. The Council expects ACT Government to have independently analysed and, if cost effective, developed its systematic charging arrangements for trade waste charges, and have a clear implementation strategy by June 2003.

2002 Progress report only

Full cost recovery: externalities

Progress report: Developments in factoring externalities into pricing by urban service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Background and ACT progress

For the 2001 NCP assessment, the Government reported the establishment of a 10 cent per kilolitre water abstraction charge, that was in the 1999-2000 Budget. This covers externalities and the scarcity value of water, and applies to all customers including urban customers. The Independent Competition and Regulatory Commission directed that the water abstraction charge be treated as a direct pass-through and shown separately on the water bill. 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)

The 2001 arrangements are continuing.

Full cost recovery: tax equivalent regimes

Progress report: Developments to implement tax equivalent regimes for metropolitan service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on TERs

ACT progress

The ACT reports that ACTEW is subject to all relevant Commonwealth and ACT taxes and tax equivalents, as required under the *Territory Owned Corporations Act 1990* (ss. 29 and 30B).

Institutional reform: structural separation

Progress report: Finalisation of the benchmark customer contract and utility services licences, and establishment of other relevant industry codes.

Next full assessment: The Council will assess institutional reform in 2003.

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

Background

Since passing the *Utilities Act 2000* the ACT Government has made substantial progress in implementing institutional reform. At the time of the

Council's 2001 NCP assessment, however, that implementation was not complete. In particular, the benchmark customer contract and utility services licence were released as discussion drafts only in February 2000 and they were not expected to be finalised until July 2001. Further, the Council had not seen copies of any other codes of practice relating to the water sector. Overall, the Council noted that it would look at these issues in 2002 to identify whether:

- the benchmark customer contract and utility services licence have been finalised;
- any other relevant industry codes have been established; and
- in practice, these arrangements are delivering sufficient institutional separation to provide for transparent rigorous regulatory processes.

ACT progress

The ACT has now approved a standard customer contract, industry codes and ACTEW's utility services licence. The standard customer contract is available on the ActewAGL website (ActewAGL 2002). The contract sets out the standard terms and conditions for the supply of water and sewerage services to customers in the ACT. It also sets out the obligations of both ACTEW and its customers. The contract specifies how customers can make inquiries and complaints, and refers to dispute resolution procedures.

A range of industry and technical codes covering the water industry are available on the Independent Competition and Regulatory Commission website. These include the customer protection code (ACT Government 2000a) that:

- outlines the basic rights of customers;
- defines the circumstances in which the water utility can interrupt, restrict or disconnect supply;
- outlines the obligations of the utility in dealing with customers; and
- sets out the provisions that must or may be included in the customer service contract.

The technical codes cover issues such as:

- the system used by the water utility to grant accreditation, and the requirements for a person to become accredited, to undertake work in connecting to the water or sewerage network (ACT 2000b);
- the development of service and installation rules for connecting a customer's premises to the sewerage network (ACT 2000c);

- mechanisms to ensure dams are managed safely (ACT 2000d);
- minimum standards for the design, construction, preparation and maintenance of water and sewerage networks (ACT 2000e);
- matters that relate to water metering (ACT 2000f);
- minimum standards for the quality and reliability for water and sewerage services (ACT 2000g); and
- the definition of the boundaries between water and sewerage networks and customer premises (ACT 2000h).

The utility services licence (ICRC 2001) sets obligations on ACTEW in relation to its operations, environmental obligations and participation in benchmarking processes. The licence specifies that ACTEW must comply with the licence, relevant codes and the *Utilities Act 2000*. ACTEW must monitor its compliance and report annually to the Independent Competition and Regulatory Commission. A summary of that report is publicly available. An independent expert, approved by the Independent Competition and Regulatory Commission, must occasionally undertake an audit of compliance.

Water trading

Progress report: Resolution of a lack of rules governing interstate trade of water in the Murrumbidgee and Murray rivers and the adoption of the Murray-Darling Cap

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

Reference: Water reform agreement, clause 5

Background

For the 2001 NCP assessment, the Council noted that the finalisation of trading rules between New South Wales and the ACT needs to await amendments to legislation in New South Wales as part of that State's more general review of the water market in the Murrumbidgee Valley. The expansion of the Murray–Darling Water Trading Pilot could eventually enable the ACT to trade with the River Murray in New South Wales, Victoria and South Australia, although the arrangements for this market are unlikely to be developed for at least two years.

The ACT component of the overall Murray–Darling Basin Commission (MDBC) cap on water extraction is under negotiation. The ACT participated in the Murray–Darling Basin initiative from March 1998 and agreed to participate in the cap initiative, but there has been no decision on what the ACT cap should be.

The 2001 NCP assessment recognised that the ACT could not implement interstate trading arrangements alone. It acknowledged the proactive steps the ACT had taken to progress these issues.

ACT progress

The ACT is pursuing interstate trading rules within the MDBC context. It is a participating member in the MDBC Water Market Reform Working Group, which is the Commission's primary group dealing with trading issues. The ACT indicated, however, that it would not agree to trading rules that disadvantage the ACT or that would lead to increased environmental degradation.

The ACT reports that it is also the industry sponsor of an academic (PhD) scholarship into possible conditions of water trading in the ACT.

In regard to the MDBC water diversion cap, the ACT has not yet agreed to a final cap, because the rules for water trading are still to be finalised. When these rules are finalised, the Government said that it would be in a position to determine a cap that is reasonable for the ACT. In the meantime, it has adopted a relatively conservative upper limit on water use, independent of the MDBC, based on the ACT environmental flow guidelines.

The ACT, to progress the issue of trading, has opened direct discussions with New South Wales to come to an arrangement that allows the ACT to be comfortable with a cap based on bilateral trading with New South Wales rather than a guarantee of cross-basin trading.

9 Northern Territory

Outstanding assessment issues

Provision for the environment

Outstanding issue: The Northern Territory needs to complete research projects to provide a scientific basis for further development of environmental requirements.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress against each jurisdiction's implementation program to identify remaining areas for assessment in 2005 when the program is to be completed.

Reference: Water reform agreement, clause 4(b-f)

Background

In 2001, the National Competition Council found the Northern Territory continued to set contingency allocations for the environment in the absence of a scientific basis for determining environmental water requirements. The Northern Territory advised that five major research projects on environmental flows in the Daly and Douglas rivers were expected to report findings in 2002. This is the only river system in the Northern Territory where significant levels of development are planned. The Council noted that it would monitor developments in this area, including the research results, as they emerged.

Northern Territory arrangements

The Northern Territory has reported progress on the five research projects, for which the National River Health Program's Environmental Flows Initiative provided funding support.

1. Periphyton and phytoplankton response to reduced dry season flows in the Daly River

The objective of the program is to evaluate the effect of reductions in dry season flow on water quality, suspended algae (phytoplankton) and substrate algae (periphyton). Owing to their short life (a scale of days), periphyton and phytoplankton are likely to be sensitive to the hydrological and water quality

impacts of water allocation, and provide the first indication of the ecological impact of reduced flows.

2. Modelling dry season flows and predicting the impact of water extraction on a flagship species

This research will provide recommendations on environmental flows that are consistent with maintaining the biota of the Daly River, while balancing the competing demands of agriculture, recreation and tourism, conservation and Aboriginal culture.

3. Groundwater utilisation of riparian and rainforest vegetation in two tropical catchments

This research aims to determine seasonal rates of water use of rainforest and riparian vegetation, and to assess the seasonal source of water used by vegetation. It will assess groundwater dependence and environmental flows required to maintain these vegetation types.

4. Environmental flow requirements of *Vallisneria nana* and dependent macroinvertebrate fauna

The objective of the project is to map the distribution pattern of *Vallisneria nana* (water grass) patches and measure performance at the population level. The habitat preferences of this species will allow predictions of responses to altered flow. The use of beds by fauna is being investigated as part of understanding the broader habitat role of aquatic macrophytes and the possible consequences of altered flow.

5. Inventory and risk assessment of water dependent ecosystems in the Daly Basin

The aims of this project are to:

- map the area, location and extent of water-dependent ecosystems (floodplains, stream channels, wetlands, sink holes);
- establish threats from water use and land management practices;
- identify ecosystems most at risk and assess the extent of this risk; and
- provide a map base describing habitats critical for other key indicator species in the Daly Basin.

The Daly Basin has the largest flow of all rivers in the Northern Territory and was chosen as an example of a region where water resource and agricultural development are being seriously considered. Agricultural

activities such as crop farming, horticulture, pastoral activities and urban development will continue around two major areas: the Katherine region and the region comprising the majority of the Douglas River, Stray Creek and Fergusson River catchments.

The Daly Basin comprises 11 subcatchments, and most wetlands are located in groundwater discharge areas. The study focuses on the existing and forecast land use activities that may threaten the water regime of the region's wetlands. First, an inventory of the basin's water-dependent ecosystems was undertaken. This process involved developing a Geographical Information System platform and collecting data from field surveys, remote sense imagery, available reports and maps. Second, this information was used in the risk assessment, which was undertaken using a framework that was endorsed by the Ramsar Convention on Wetlands.¹

The study concluded that 5–15 per cent of the major wetlands of the Daly Basin will be likely to experience altered water regimes due to land clearance and/or water extraction as per the study scenario. It highlighted informational gaps that prevented a more comprehensive assessment of the land and water uses posing the greatest risk, and of the wetlands at greatest risk in the Daly Basin. Most important for better understanding the basin wetlands are (a) the need for reliable hydraulic information on hydroperiod, frequency and depth of inundation for floodplain wetlands, and (b) detailed analyses of the water requirements of wetland fauna and flora.

The study recommended that wetlands outside the Daly Basin be incorporated into the overall investigation and that the category 'environment' be declared under the Northern Territory *Water Act* as the beneficial use of all wetlands in the basin. Finally, with monitoring needs in mind, the study recommended the collection of baseline data on habitat diversity for aquatic organisms, and marginal and riparian vegetation as soon as possible, along representative reaches of the Douglas, Katherine and Daly rivers. The project was completed in October 2001.

Next steps

Final reports on the remaining research initiatives are expected to be finalised by July 2002. All project leaders will then reconvene to make recommendations about specific environmental water requirements. Relevant Northern Territory agencies will consider these recommendations by the end of September 2002. Public workshops, held in conjunction with consultation on the Daly Region Water Strategy, will be held in November–December 2002.

¹ The Ramsar wetlands are those listed under the 1971 Convention on Wetlands as wetlands of international importance.

Discussion and assessment

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. Principle 2, however, requires that provision of water for ecosystems should be based on the best scientific information available on the water regimes necessary to sustain the ecological values of water-dependent ecosystems. Principle 11 requires strategic and applied research to improve the understanding of environmental water requirements.

The Northern Territory advised that research projects on current environmental flows in the Daly and Douglas rivers were under way, and that the results of this research would form the basis for further development of the Northern Territory's approach to environmental flows. The research projects were expected to report findings in 2002. The Council therefore wanted to monitor developments in this area, including the results of research as it emerged, to ensure provision of water for the environment in the Northern Territory is being adequately addressed.

The science in this area is still emerging. Further, the Northern Territory advised in 2001 that unless the findings of these projects show existing environmental allocations are significantly inadequate, the projects will not have an impact on the levels of existing environmental allocations. These contingency allocations have been set on a conservative basis. Any variations to environmental water requirements as a result of the projects would occur as part of the five-year review of the operation of a water allocation plan.

For this assessment, the Council was provided with a copy of research project 5. The Council notes that Environment Australia endorsed the project's approach as suitable to the circumstances of the Northern Territory. The Council has reviewed the findings of the project and is satisfied that the Northern Territory is meeting the outstanding 2001 NCP commitment. The Council will re-examine progress in this area in the 2004 NCP assessment.

Public education

Outstanding issue: The Council undertook to monitor the development of public education programs in future NCP assessments.

Next full assessment: For all future NCP assessments, the Council will examine public consultation and education measures for the reform priority that falls due for assessment in that year.

Reference: Water reform agreement, clauses 7(a–e)

Background

In 2001, the Council found that the Northern Territory was beginning to develop community materials on the water reform process and water issues generally, including introducing a range of materials for schools. The WaterWise NT program was piloted in 2001 and rolled out in Alice Springs, where water consumption per person is the highest of all major Territorian population centres. The aim was to introduce the program progressively to other regional centres.

Northern Territory arrangements

The community-based Alice Springs Urban Water Management Strategy reference group initiated WaterWise NT for 2002. The program is targeted primarily at schools, although community events, public displays, print and electronic media advertising and other general promotional activities will aim to raise general community awareness of water issues. A facilitator is permanently based in Alice Springs to support the program.

School students are recognised as major drivers of change, influencing attitudes and behaviour towards water use over the longer term. Accordingly, WaterWise NT was successfully trialled at a major Alice Springs secondary school during 2001. Secondary schools are the initial targets for the program, followed by primary schools. The program is expected to be established in all 63 schools in the Alice Springs area, with a focus on schools in remote regions, and ultimately extended throughout the Northern Territory.

The Northern Territory has advised that the potable water supply of Alice Springs is drawn from the Roe Creek borefield, where water levels are dropping by an average of 1 metre per year. Average daily use is approximately 1480 litres per person, with total consumption varying between 14 million litres and 42 million litres per day. Successfully managing demand, through the implementation of the WaterWise NT program, should defer the need for new infrastructure such as bores and sewage treatment ponds.

The primary objectives of WaterWise NT are to raise awareness of the importance of water to communities and natural ecosystems, to improve public awareness of the various impacts of water use on the environment, to introduce water saving programs, and to promote water conservation principles. Official recognition as a WaterWise School is granted and schools receive accreditation for actively contributing to each of the program's objectives. Public education activities in Alice Springs have been complemented by ongoing consultation with irrigators in the Katherine and

Ti Tree regions regarding the Northern Territory's interim policy on environmental flows.²

Assessment

The Council is satisfied that the Northern Territory has made sufficient progress to address the outstanding 2001 issue. Developments in public consultation and education mechanisms, including the rollout of the WaterWise NT program, will be considered in the 2004 NCP assessment.

Progress report issues

Urban full cost recovery: externalities

Progress report: Reporting on the developments in factoring externalities into pricing by urban service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on externalities

Background

For the 2001 NCP assessment, the Council understood that there were no explicit provisions for including the external costs of water supply in the Power and Water Authority's (PAWA) prices. Including externalities in setting prices is a requirement of the Council of Australian Governments (CoAG) guidelines. One way of meeting this requirement is to pass on to customers the costs of managing the environmental impacts of urban water use. The Council notes, however, that a comprehensive treatment of externalities also requires the Northern Territory to consider issues such as property rights and environmental standards.

In its 2001 NCP assessment, the Council recognised that the Northern Territory was considering including monitoring costs within the licence conditions for some major water users, which would then be passed on to customers as part of operating costs.

² The policy provides for no more than 20 per cent diversion of surface water and/or groundwater.

Northern Territory progress

For 2002, the Northern Territory reports that water and wastewater providers, including PAWA, are required to comply with a range of environmental and resource management operational standards. To the extent that these requirements increase the operating costs of these service providers they will be reflected in water and wastewater prices. The Northern Territory does not charge, however, a separate levy to reflect the costs of environmental externalities. Other resource management costs are also not included.

The Northern Territory argues that environmental charges for urban water services are not necessary at this stage of the Territory's economic development because current levels of water consumption and irrigation appear to be insufficient to have any significant environmental implications. The Government has not provided any evidence to substantiate this claim.

PAWA published an environment report for the first time as part of its 2001 annual report package. The report details the environmentally sustainable manner in which PAWA provides services in the Territory.

Urban full cost recovery: tax equivalent regimes

Progress report: Reporting on the developments to implement tax equivalent regimes (TERs) for metropolitan service providers

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreements, clause 3(a)(i); Expert Group report on tax equivalent regimes

Background and Northern Territory progress

PAWA has operated under the Northern Territory's competitive neutrality policy framework since the mid-1990s. Under this framework, the following requirements apply to PAWA.

- Income tax equivalent payments are made in accordance with the national tax equivalent regime, administered by the Australian Taxation Office.
- Goods and services tax applies in the same manner to PAWA as to other water and sewerage service providers.
- Local government rate equivalent payments are made in accordance with the Northern Territory's tax equivalents regime, administered by the Northern Territory Treasury.

- **PAWA is liable for other Northern Territory taxes, including payroll tax and stamp duty on conveyances, leases, insurance and motor vehicles.**

The Northern Territory's tax equivalent regime was amended to facilitate the payment of local government rate equivalents by PAWA from 1 July 2001. This is an interim measure pending the development of budget-neutral arrangements for local government grants. Once appropriate mechanisms are in place, PAWA will pay rates directly to relevant local governments.

Cross-subsidies

Progress report: Reporting of cross-subsidies in PAWA's annual report

Next full assessment: The Council will assess urban pricing reform in 2003.

Reference: Water reform agreement, clause 3(a)(i)

Background

In the 2001 NCP assessment, the Council supported:

- the proposed elimination by PAWA of the differential prices between Government and other customers;
- the measures taken by PAWA to ringfence its different business activities, because this would decrease the potential for nontransparent and inefficient cross-subsidies;
- measures to refine trade waste and wastewater charges to reflect more accurately the value of the service that customers receive, again to decrease the potential for nontransparent cross-subsidies; and
- PAWA's intention to report cross-subsidies between regional centres in its 2001 and future annual reports.

Northern Territory progress

For 2002, the Northern Territory reported considerable progress and commitment to transparently reporting and eliminating cross-subsidies.

- Future price pathway submissions to PAWA's Minister will be based on the phased elimination of cross-subsidies, including cross-subsidies from Government users to commercial and domestic customers.
- A trade waste management system was introduced on 1 January 2002 to charge for the discharge of trade waste to PAWA's sewerage system. The trade waste management system will emphasise self-regulation by industry and embrace the 'user pays' principle. Being based on this

principle, the new trade waste charges will reduce cross-subsidies between businesses producing low and high levels (or toxicity) of waste.

- **Community service obligation (CSO) funding is provided to subsidise water and wastewater charges for pensioners in all Northern Territory centres. Additional CSO funding is provided for services in the Katherine, Tennant Creek and Alice Springs regions to maintain uniform tariffs across the Northern Territory. External funding of CSOs means these services are not funded through cross-subsidies.**
- **The Northern Territory introduced a mechanism to transparently report cross-subsidies. PAWA's 2001 annual report published tables detailing cross-subsidisation. The report demonstrates that, even after the inclusion of CSO payments, waste water services in Darwin, Katherine and Alice Springs cross-subsidise waste water operations in Tennant Creek; and that water supply services in Darwin and Katherine cross-subsidise those in the Alice Springs and Tennant Creek regions.**

Institutional reform: structural separation

Progress report: Reporting on the Enforcement of drinking water standards

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6

Background

In its 2001 NCP assessment, the Council noted that the Northern Territory did not set specific standards for water quality and did not have an independent mechanism for auditing PAWA's compliance with drinking water guidelines. The Northern Territory envisaged that it would address these issues through its new licensing system for PAWA; PAWA would be required to monitor and report on the service provided under that licence.

Northern Territory Progress

On 6 February 2002, the Utilities Commission issued an urban water supply licence to PAWA. Copies of that licence are publicly available through the Utilities Commission web site. Clause 18 of the licence provides for the application of water quality service standards. PAWA is moving to introduce the Drinking Water Quality Management Framework into major and regional water supplies in the Northern Territory.

10 Murray–Darling Basin Commission

Outstanding assessment issues

Pricing and cost recovery: rural

Outstanding item: Assess the independent audit of cost-sharing arrangements, including the issue of transparent future asset financial management, and progress on consumption based pricing.

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

Reference: Water reform agreement, clause 3

Background

The Murray–Darling Basin Commission (MDBC) recovers the full cost of constructing, operating, maintaining and renewing assets from its member Governments. Currently, the arrangements ensure the costs borne by the States relate to the level of service received from River Murray Water, the MDBC water business. River Murray Water recovers 75 per cent of the cost of asset refurbishment and replacement from the States; the Commonwealth pays the remaining 25 per cent, whilst the States meet the full cost of operation and maintenance of assets.

In 2001 the National Competition Council identified two issues with the current MDBC approach to cost recovery and pricing, which it intended to reconsider in the 2002 NCP assessment:

- the outcomes of the independent audit of cost sharing arrangements, including the issue of transparent future asset management; and
- consumption-based pricing.

MDBC arrangements

The MDBC commissioned an independent review of pricing arrangements, which the MDBC Ministerial Council considered and endorsed in April 2002:

...[the Ministerial Council] endorsed in principle the findings of an Independent Review of Pricing Arrangements for River Murray Water, which assessed River Murray Water's performance against the 1995 CoAG agreement on National Competition Policy. The Independent Review found that substantial progress has been achieved through the formation of River Murray Water and the reform of cost sharing arrangements. It promotes the adoption of a renewals annuity to better reflect required pricing levels. The Council requested the Commission to prepare a detailed report for the next Council meeting on an agreed program for implementation of the findings. (MDBC Ministerial Council 2002, p. 5)

The next Ministerial Council meeting to consider the implementation of these recommendations is scheduled for November 2002. Meanwhile, the Murray–Darling Basin Commission provided public access to the review report by posting it to its website.

The review discussed issues beyond those that the Council specifically identified for assessment this year. The Council will consider the implementation of these recommendations in full in 2004, when it will expect to see full implementation has occurred (or clear timeframes have been set for finalising any outstanding issues).

Asset planning and management

The independent review report recommended changes to the current approach to planning and financing capital investment. In particular, it found that:

- *Use of annual capital expenditure rather than a renewals annuity does not meet the CoAG Strategic Framework and the Murray–Darling Basin's Ministerial Council Reform objective of 'putting in place arrangements so that out of charges for water funds for the future maintenance, refurbishment and/or upgrading of the headworks and other structures under the Commission's control be provided.'*
- *The Murray–Darling Basin Agreement does not enable the establishment of a renewals annuity or investment or borrowing and therefore limits River Murray Water's capacity to achieve CoAG and the Ministerial Council's reform objective.*
- *The Ministerial Council should review each year:*
 - *Long-term capital requirements for River Murray Water as determined by a renewal annuity for required assets.*
 - *Opportunities for optimisation of assets to meet current and future asset requirements.*

- *Annual capital budgets as proposed by the States and River Murray Water.*
- *Annual capital requirements as determined by a renewal annuity. (Langford and Scriven 2002, p. 4)*

Consumption-based pricing

The independent pricing review concluded that the current cost-sharing arrangements developed by River Murray Water are appropriate given the MDBC's circumstances. It argued that, there would be little gain, at this stage, from moving to consumption-based pricing for River Murray Water:

The amount of variable costs or variations in annual diversions for States served by River Murray Water are not significant enough to derive any change in behaviour when included in a consumption-based tariff. The merit of the 70/30 split used to notionally separate fixed and variable charges is debatable as most of River Murray Water's costs are fixed. The cost sharing arrangements are based on entitlements rather than annual consumption. Over time, there would be little variation in the use of consumption rather than entitlement. (Langford and Scriven 2002, p. 17)

It also argued, however, that further mechanisms were necessary to provide clear price signals to water users:

- *Clear price signals will not be achieved until all costs are recognized and all subsidies and community service obligations are disclosed.*
- *Publication of financial and pricing information for River Murray Water is the best way to provide clear price signals to water users under the present institutional arrangements.*
- *States 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. (Langford and Scriven 2002, p. 17)*

This final issue is particularly important given that the States have very different policies on passing on River Murray Water costs to water users. In New South Wales and Victoria, for example, rural water users are required to pay a significant proportion of the costs passed on from River Murray Water. In contrast, South Australia does not pass on these costs to irrigators. This issue is not one for the MDBC, but the Council will need to consider it further in 2004 when assessing each State's approach to rural water pricing.

Discussion

The Council considers that the independent pricing review satisfactorily covered all the pricing issues identified for consideration in the 2002 NCP assessment. It also covers other pricing issues that the Council will consider in 2004. The Council concludes that the recommendations contained in the review, if implemented, would effectively address the issues raised in 2002. The Ministerial Council endorsed these recommendations in principle and directed the Commission to develop an implementation program. The MDBC Ministerial Council will not consider this program until November 2002 so the Council cannot yet confirm how the MDBC will implement the recommendations.

Assessment

Given that the MDBC Ministerial Council endorsed the review's recommendations, the Council is inclined to conclude that the MDBC has met its 2002 reform commitments. If, however, the MDBC decides not to adopt some recommendations, it will need to provide a clear public justification of its alternative approach and demonstrate that this alternative is consistent with its CoAG water reform commitments.

The Council will fully assess the implementation of the review recommendations in 2004. In 2003, when assessing the implementation of institutional arrangements, the Council will consider whether the MDBC Ministerial Council has endorsed the implementation of the recommendations (see the discussion on institutional arrangements).

Trade

Outstanding item: Assess progress in developing mechanisms to facilitate interstate trade.

Next full assessment: The Council will assess interstate trading in 2004.

Reference: Water reform agreement, clause 5

Background

The MDBC has been running a pilot project on interstate trading since 1998. The review of the pilot in 2000 concluded that:

- arrangements for interstate trade are improving;
- administrative arrangements are an impediment to efficient trade and need to be streamlined;

- interstate trading is increasing the value of water use in the Murray–Darling Basin;
- interstate trade had no measurable adverse social impact during the pilot;
- environmental impacts are mixed: the environmental flow impact has probably been positive, while the salinity impact is expected to be negative;
- exchange rates are poorly understood; and
- mechanisms for enforcement need to be improved.

In its 2001 NCP assessment, the Council recognised that the Murray–Darling Basin Commission’s Pilot Interstate Water Trading Project was a significant advance in interstate trade in Australia. There were constraints, however, on the expansion of the pilot to different regions and types of water right. The Council noted that it would further assess in 2002 the progress in resolving the property right issues associated with trade and developing mechanisms to facilitate interstate trade.

MDBC arrangements

The MDBC has not recently progressed the trading pilot scheme. It is focusing on developing water accounting systems to allow it to track trade, develop exchange rates along the river and between different water rights, and adjust the State caps in response to interstate trade. These efforts will allow the MDBC to extend trading across the Basin. (\$500 000 has been allocated to developing the trading system.)

The MDBC Ministerial Council meeting in April 2002 noted the importance of water trading arrangements and the need for clear definitions of water property rights. The Council also noted the CoAG April 2002 decision that jurisdictions must report by September 2002 on opportunities and impediments to better define and implement water property rights regimes. This work may have an impact on the MDBC process of developing exchange rates between water rights in different States.

The Ministerial Council asked the MDBC ‘to draw upon the CoAG work as it relates to Basin water recovery matters’. It also asked the MDBC ‘to accelerate its own work on the development of water trading arrangements and related property rights in the Basin, including water trading rules that take full account of the environmental impacts of such trade’ (MDBC Ministerial Council 2002).

Discussion

There has been little practical progress in water trading since the Council's 2001 NCP assessment, but the MDBC has now committed at the Ministerial Council level to adopt comprehensive interstate water trading and placed priority on implementing trading arrangements. The Council considers that full interstate trading should be implemented as soon as possible and that the systems that support trading should be efficient and effective. An efficient and effective trading system needs to: allow for trading between different water rights in different States; account for the environmental consequences of trade; and facilitate timely trading, including providing access to State-based water registry information in a way that facilitates interstate trades.

In its 2001 NCP assessment, the Council discussed the importance of effective property rights registers. These registers are currently State based. Consequently, an issue is how those interested in interstate trading can readily access the consolidated information they need to conduct such trades, when currently the various State systems are not coordinated.

Assessment

The Council concludes that the MDBC has met its 2002 commitments. It expects, however, significant progress in the development and implementation of trading arrangements between now and its full assessment of interstate trading in 2004. In 2003, the Council will provide a progress report on this implementation.

Over the next two years, the Council expects the MDBC to establish:

- a system of exchange rates to allow for trading between regions and between different water rights in different States;
- adequate environmental controls to ensure water trading does not result in environmental degradation;
- efficient administrative arrangements for processing and approving trades; and
- a system to provide access to State-based registry systems which enables those interested in interstate trading to obtain the information they need to conduct such trades.

Progress report issues

Institutional reform: structural separation

Progress report: Reporting on the MDBC's completion of the independent pricing audit, the Ministerial Council's response to the audit and the availability of sufficient information to stakeholders to understand the audit's recommendations.

Next full assessment: The Council will assess institutional reform in 2003.

Reference: Water reform agreement, clause 6

Background

The Council noted concerns in 2001 that the MDBC's approach to price setting did not provide the transparency necessary to analyse River Murray Water's prices and give stakeholders confidence in the rigor and objectivity of price-setting arrangements. One key initiative by the MDBC to address these issues was the independent pricing review. The Council noted that it would monitor in 2002:

- the completion of the independent pricing review;
- the Ministerial Council's response to that review; and
- whether sufficient information is available to stakeholders to understand the review's recommendations.

One obvious mechanism for ensuring stakeholders have access to sufficient information on the pricing review is to make the review report public. The Council also noted that it would examine the transparency of reporting of River Murray Water's accounts.

MDBC progress

Progress on implementing the independent pricing review report to the Murray–Darling Basin Ministerial Council was discussed in detail in the previous section on rural pricing and cost recovery. The Council has been advised that the Murray–Darling Basin Commission has made the review report public through its website together with a note describing its status as a report received and endorsed in principle by the Ministerial Council and whose implementation will be the subject of a further report by the Commission to the Ministerial Council in November 2002.

While River Murray Water provides separate accounts to the owners of its water business (the Commonwealth, New South Wales, Victoria, and South Australia), it has not previously reported these separate accounts publicly.

Following the independent pricing review the Commission will now include in its annual report a supplementary note reporting, in relation to River Murray Water activities, the annual cost shares met by each Government and the corresponding bulk water volumes supplied to each State.

Water allocations and the environment

Progress report: Reporting on Murray–Darling Basin States' compliance with the MDBC cap on water diversions

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress to identify remaining areas for assessment in 2005.

Reference: Water reform agreement, clause 4(b–f)

Background

The cap on diversions from the basin continues to make an important contribution to ensuring environmental flows in the river system. The primary objectives of the cap are to maintain and, where appropriate, improve existing flow regimes, to protect and enhance the riverine environment, and to achieve sustainable consumptive use by developing and managing basin water resources to meet ecological, commercial and social needs.

The MDBC Ministerial Council formally adopted the cap in August 2000 as part of the Murray–Darling Basin Agreement. The cap is legally enforceable. Under the Agreement, States' water allocations are independently audited each year and any breaches of the cap are declared by the MDBC and referred to the Ministerial Council. The Council reported in 2001 on 1999-2000 cap implementation.

The cap sets an upper limit on the amount of water that can be taken from the river system. It is equal to the volume of water that would have been diverted under 1993-94 levels of development. In unregulated rivers, the cap may be defined as an end-of-valley flow.

Submission

The Council received a submission from Mr Robert Caldwell, an irrigator in the Lachlan Valley, concerning the MDBC cap for the Lachlan. He argued that the average cap of 250 gegalitres for the Lachlan river is inappropriate and that 500–620 gegalitres is more indicative of the Lachlan's developmental needs (Caldwell 2002, submission 5).

MDBC progress

The Independent Audit Group's 2000-01 review of cap implementation (MDBC 2002) has been completed.

The transparency in reporting on cap compliance is resulting in pressure on those communities that are over the cap, along with their governments. When assessing individual compliance with the cap, the Council will continue to raise the review concerns with jurisdictions. The Council will consider the case for recommending reductions in competition payments where jurisdictions persistently breach the cap and does not rectify those breaches in later years. The key issue for cap compliance is not so much whether a region breaches the cap in any one year, but whether the cap is breached two to three years running. This indicates that a region and its government are not addressing overuse of water or are not committed to compliance with the cap.

The following are the main findings of the Independent Audit Group.

- Queensland has yet to complete its water resource planning process, which will define the cap in Queensland, although the moratorium on the construction of works has slowed water use development.
- Diversions in the ACT were within the cap recommended for that jurisdiction, but the ACT has yet to agreed on the cap. A necessary condition for agreement is the finalisation of trading rules for the Murrumbidgee river.
- Jurisdictions are to report to the MDBC on a number of implementation issues raised in the IAG report, including the audit and approval of valley models, the development of quality management systems for diversion data and the resolution of the rules for water trading. Basin-wide accounting for environmental flows, akin to the consumption cap at the moment, is proposed.
- For New South Wales, the long term diversion cap has been exceeded in the Namoi Valley, the Barwon/Darling/Lower Darling Valleys and the Lachlan Valley. New South Wales is to address this issue and report to the next MDBC Ministerial Council meeting on action taken to bring diversions into balance, including the period over which this correction will occur.

The cap is an essential first step in establishing management systems to achieve healthy rivers and sustainable consumptive uses. It represents a balance between the significant economic and social benefits that have been obtained from developing the basin's water resources on one hand and seeking to improve the environmental health of the river system on the other.

Provision for the environment

Progress report: Reporting on the MDBC project on *environmental flows and water quality objectives for the River Murray*, which aims to establish water quality and environmental flow objectives and a flow regime to achieve them.

Given the national significance of this issue, the Council will report on further developments in 2002 and will look for tangible progress in this area in future assessments.

Next full assessment: The Council will assess allocations for the environment in 2004 and provide a stocktake of progress to identify remaining areas for assessment in 2005.

Reference: Water reform agreement, clause 4(b–f)

Background

In 2001, the ‘Save the Murray’ campaign against environmental degradation received national media prominence. The River Murray is now at a point where the level of diversions has significantly reduced flows in the lower Murray. The reduction in flow has most notably affected small to medium-sized flood events. The frequency of these floods has been substantially reduced and many now are completely harvested. Consequently, the lower reaches of the Murray now experience severe drought-like flows in over 60 per cent of years, compared with 5 per cent of years under natural conditions.

The changes to the flow regime have had a significant impact on river health, including a contraction in the area of heavy wetlands, a fall in native fish numbers, rising salinity levels and an increase in the frequency of algal blooms. A number of Ramsar wetlands¹ are under threat. These wetlands on the River Murray system are important bird breeding and refuge areas, and may contain other significant fauna and flora. Numerous other wetlands of national importance are associated with the River Murray system and would be subject to flow-related stresses similar to those on the Ramsar wetlands.

The MDBC is committed to providing environmental flows as opportunities arise and according to the best scientific advice on potential outcomes. Environmental flows in the Murray–Darling Basin are not only a matter for the MDBC; properly implemented, the bulk entitlements policy of Victoria, the water sharing plans of New South Wales and Queensland’s progress on the Condamine–Balonne water resource plan will achieve environmental allocations and contribute to better outcomes for the River Murray.

The Council recognises that the complexity of the issues, as well as the number of governments involved, has led to progress being slow. Given the national significance of this issue, however, the Council will look for tangible progress in later NCP assessments.

¹ The RAMSAR wetlands are those listed under the 1971 Convention on Wetlands as wetlands of international importance.

All State governments committed to the 1994 CoAG water reform agreement and to the NCP agreements in 1995 that required national water reform. In 1999, the tripartite meeting agreed that allocation programs to address all river and groundwater systems that are overallocated or stressed should be substantially complete by 2005. The River Murray is the nation's largest stressed resource and needs to be treated like all other stressed river systems.

The Council expects, therefore, that an agreement and implementation of environmental allocations for the River Murray will be in place by 2005. The MDBC Ministerial Council's decision at its October 2003 meeting on flow options for the River Murray should provide a timeframe (with milestones) in which to deliver environmental flows based on scientific evidence. Public consultation on this issue will be considered as part of the 2004 NCP assessment.

MDBC progress

Environmental flows for the River Murray

The Ministerial Council meeting in April 2002:

- approved a \$150 million package over seven years to make structural and operational changes to improve weirs and channels, a native fish strategy to boost six-fold the levels of native fish, and investigations to make the best use of the water currently available to the environment of the River Murray. The Commonwealth, New South Wales, Victoria and South Australia are expected to each contribute 25 per cent of these funds;
- directed the Commission to use three reference points – 350, 750 and 1500 gegalitres², returned to the River Murray – as the basis for analysis and community engagement in flow restoration;
- agreed to a community engagement commencing on 1 July 2002;
- agreed to a comprehensive analysis of these economic and social options, and environmental impacts of providing environmental flows. It will research environmental management outcomes because there is a need to actively manage the environment and to convince the community that the scenarios will produce tangible environmental outcomes; and

² The three scenarios include the 70 gegalitres already identified as the River Murray's share of the planned recovery of 210 gegalitres of environmental water under the Snowy River initiative.

- indicated a desire to make a final decision on an environmental flow regime for the River Murray on the basis of the above work, in October 2003.

These initiatives are additional to those regarding fish passage, salt interception works and improved wetland health which were reported in the 2001 NCP assessment. They will result in improved management of floodplain health, fish, the Murray mouth, and the Coorong and Lower lakes, and the establishment of water quality objectives.

Under the terms of the Ministerial Council decisions, the MDBC will develop a business case for the recovery of 350, 750 or 1500 giganalitres of environmental flows for the River Murray. The development of the plan will consider issues of equity, property rights and water trading. A Jurisdictional Reference Panel comprised of all MDBC States developed the three recovery options. The MDBC will also examine local and system-wide environmental problems and benefits for the Murray mouth, the Coorong wetlands, the Chowilla floodplain, the Gunbower–Perricoota and Barmah–Millewa forests, and Murray cod. A reduction in consumptive use of 750 giganalitres would equate to about 10 per cent of allocation and 7 per cent of use. It would increase the median flow at the river mouth by about 20–25 per cent to a total of 35 per cent of the river’s median natural flow. Restoration of 1500 giganalitres is equivalent to a 20 per cent reduction in the cap.

In deciding to proceed with consultation on the three environmental flow options, the Ministerial Council effectively ruled out the ‘no allocation’ option. The MDBC therefore has to plan structural and operational changes for each scenario. It has already agreed to establish a river accounting system for environmental water and to appoint a River Murray Environmental Manager.

The complexity of the environmental flows issue and the need for certainty in the communities relying on irrigated agriculture have been recognised. The MDBC Ministerial Council therefore agreed to establish an intensive community engagement strategy (commencing 1 July 2002) to incorporate community values and scientific and technical knowledge in developing options for the recovery of water for the environment. This Strategy will include a river reach and a basin-wide approach, with input from local stakeholders, regions and the general community. Approaches will seek to maximise benefits and minimise costs to water users.

The increase in environmental allocations to be agreed on will be based on the 1993-94 levels of use for Victoria, New South Wales and South Australia. Reductions in water allocations may not be uniform across all water users, because greater savings in some regions may be necessary to achieve the desired environmental outcomes. New water sharing arrangements are approaching completion in New South Wales and Queensland. Further water made available to the River Murray environment as a result of these plans will be counted as part of those States’ contributions.

Native fish strategy

The health of native fish species in the Murray–Darling Basin is an indicator of the overall health of the basin and its rivers. River regulation to provide water on demand through dams, weirs and diversions has changed the natural flooding and drying cycles of the river systems, affecting the health of river habitats and native fish populations. Native fish populations are now at an estimated 10 per cent of pre-European levels and are likely to decline to 5 per cent unless intervention occurs.

The Ministerial Council endorsed a draft native fish strategy and has released the strategy for six months of public consultation. The strategy has the goal of rehabilitating native fish communities in the Murray–Darling Basin (back to 60 per cent of their estimated pre-European settlement levels) over 50 years. The Strategy will involve action to rehabilitate and protect fish habitats, manage riverine structures, control alien fish species, protect threatened native fish species and manage fish translocation and stocks. It is based on the notion that environmental flows are critical to the rehabilitation of native fish populations.

The MDBC Ministerial Council agreed to invest in ‘daughterless carp’ technology that has the prospect of reducing European carp impacts dramatically over 20–30 years. The MDBC will work with CSIRO Marine Science to carefully evaluate the potential for this technology and plan for its implementation.

Submissions

The Council has received a number of submissions that raise MDBC issues. Environment Victoria argues that the Victorian Government is not prepared to deliver environmental flows to the Murray by 2005 and that 1000 ggalitres is the bare minimum needed (Environment Victoria 2002, submission 2). The New South Wales Irrigators Council is concerned with the MDBC project to increase environmental flows, arguing that:

- there was insufficient consultation before the development of the three scenarios for increasing environmental water allocations;
- the process has excluded widespread consultation, so irrigators have no ownership of the process and have not been involved with the appointment of members of the Community Reference Panel;
- supporting documentation (including scientific and economic studies) are not publicly available and have not been subjected to peer review;
- irrigators are seeking informed debate and call for:
 - a decision-making framework that actively includes the irrigation community, provides timely and comprehensive information, and

- allows the community to develop, evaluate and agree to preferred options;**
- a review of the benefits of the MDBC cap and environmental flow rules; and**
 - equality between the States in whatever solutions are reached;**
 - the focus on the Murray mouth has been an oversimplified way of delivering political messages that have no environmental impacts; and**
 - investigations have been limited to scoping reports for what is the biggest decision ever to affect Murray–Darling Basin regional communities. While the issue of compensation for lost water has been tabled for consideration, the scope of the research has been narrow. A comprehensive socioeconomic analysis incorporating regional impacts is needed (NSWIC 2002, submission 12).**

Appendix A: List of submissions

Australian Conservation Foundation

Brimblecombe, Ian and Anne

Burnett Water Pty Ltd

Burnett Water for All Pty Ltd

Caldwell, Robert

Coffey, Dr Felicity

Dyke, Colin and Suzanne

Environment Victoria Inc.

Incitec Ltd

Lower Murray Irrigation Advisory Board

Nekon Ltd

New South Wales Irrigators Council

South East Queensland Environment Institute of Australia

Tasmanian Conservation Trust

Victorian Farmers Federation

World Wide Fund for Nature (2 submissions)

References

- ActewAGL 2002, *Water and Sewerage Services Connection and Supply Standard Customer Contract*, www.actewagl.com.au, Accessed 29 June 2002.
- ACT Government 2002, *Third Tranche Progress Report to the National Competition Council on Implementing National Competition Policy and Related Reforms*, Canberra.
- 2000a, *Consumer Protection Code*, Canberra.
- 2000b, *Contestable Work Accreditation Code*, Canberra.
- 2000c, *Water and Sewerage Service and Installation Code*, Canberra.
- 2000d, *Dam Safety Code*, Canberra.
- 2000e, *Water Supply and Sewerage Service Standards Code*, Canberra.
- 2000f, *Water Metering Code*, Canberra.
- 2000g, *Water and Sewerage Network (Design and Maintenance) Code*, Canberra.
- 2000h, *Water and Sewerage Network Boundary Code*, Canberra.
- ALP (Australian Labour Party) 2002, *ALP News Statements: Labor's Bold New Plan to Tackle Power Prices: Media Statement – 3 February 2002*.
- Armstrong Agricultural Services & National Strategic Services Pty Ltd 2002, *Final Report Tasks 1 & 2, Great Forester Catchment Irrigation and Water Reliability Project*, Hobart.
- Australian Academy of Technological Sciences and Engineering and the Institution of Engineers, Australia 1999, *Water and the Australian Economy*, Parkville, Victoria.
- Australian Financial Review*, 24 April 2002
- Australian State of the Environment Committee 2001, *Australia State of the Environment 2001*, Independent report to the Commonwealth Minister for the Environment and Heritage, CSIRO, Canberra.
- Burnett Basin Technical Advisory Panel 2000, *Burnett Basin WAMP: Ecological Implications of Draft Water Allocation Management Plan Scenarios*, Queensland.
- CoAG (Council of Australian Governments) 2002, *Communique*, Canberra, 5 April 2002.
- CRCFE (Cooperative Research Centre for Freshwater Ecology) 2002, *Watershed newsletter*, Canberra.

D&MDTT (Davey & Maynard Agricultural Consulting, Deloitte Touche Tohmatsu Serve-Ag Pty Ltd) 2002, *Meander Dam Feasibility Study; Agricultural and Economic Report*, (www.dpiwe.tas.gov.au)

Department of Land and Water Conservation, New South Wales 1999, *Water Trading Development and Monitoring*, Report prepared by Marsden Jacob Associates, Sydney.

—2002, *Draft water sharing plans*, (www.dlwc.nsw.gov.au)

Department of Natural Resources and Environment 2002a, *Healthy Rivers Healthy Communities & Regional Growth: Draft Victorian River Health Strategy*, Victoria

—2002b, *The Value of Water: A Guide to Water Trading in Victoria*, Report prepared in conjunction with rural water authorities, Melbourne.

— 2002c, *Establishing the Essential Services Commission of the Economic Regulator of the Victorian Water Industry: Proposals Paper*, Victoria

—2001, *Establishing the Essential Services Commission as the Economic Regulator of the Water Industry: Issues Paper*, Victoria

Department of Primary Industries, Water and Environment 2001a, *Report on Water Availability in Tasmania – Background Report*, Water Development Plan for Tasmania, Hobart.

Department of Treasury and Finance, South Australia 2002, *Establishing the Essential Services Commission: Position Paper*, June 2002, Adelaide.

Department of Treasury and Finance, Victoria 2002, *National Competition Policy: Report of the Third Tranche Assessment on Victoria's implementation of the National Competition Policy, Volume 1*, Melbourne.

Department of Treasury and Finance, Western Australia 2002, *Progress Report: Implementing National Competition Policy in Western Australia*, Report to the National Competition Council, Perth.

Government of South Australia 2002, *Report to the National Competition Council on Implementation of National Competition Policy and Related Reforms in South Australia*, Adelaide.

Government of Tasmania 2002, *National Competition Policy Progress Report*, Hobart.

— 2002a, *Great Forester Catchment Draft Water Management Plan 2002*, Department of Primary Industries, Water and Environment, Hobart.

— 2001, *Tasmanian Natural Resources Management Framework*, Department of Primary Industries, Water and Environment, Hobart.

Harris. G, CSIRO 2002, "Ensuring sustainability—paradigm shifts and big hairy goals", presented at Enviro2002, Melbourne, 8 April.

High Level Steering Group on Water 2000, *Progress in Implementing the COAG Water Reform Framework: 2000 Report to COAG*, Canberra

-
- Hobart City Council 2001, *Water reform package*, Hobart.
- IC (Industry Commission) 1992, *Water Resources and Water Waste Disposal*, Australian Government Publishing Service, Report no. 26, Canberra.
- ICRC (Independent Competition and Regulatory Commission) 2001, *Utility Service Licence under the Utilities Act 2000 (ACT): Issued to ACTEW Corporation Ltd CAN 069 381 960*, Canberra.
- IPARC (Independent Pricing and Regulatory Commission) 2000, *ACTEW's Water Charges for 1999-2000 to 2003-04 Pass Through of Water Abstraction Charge*, Canberra.
- Independent Pricing and Regulatory Tribunal. 2001, *Department of Land and Water Conservation: Bulk Water Prices from 1 October 2001*, Sydney.
- Langford, J. and Scriven, C. 2002, *Independent Review of Pricing Arrangements: River Murray Water*, MDBC, Canberra.
- MDBC (Murray–Darling Basin Commission) 2002, *Review of Cap Implementation 2000-2001: Report of the Independent Audit Group*, Canberra.
- MDBC Ministerial Council 2002, *Corowa Communiqué: Council Meeting 12-13 April 2002*, Corowa, New South Wales.
- NCC (National Competition Council) 1999, *Second Tranche Assessment Volume II (Water Reform)*, Melbourne.
- 2001a, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: Tasmania Water Reform*, Melbourne.
- 2001b, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: Victoria Water Reform*, Melbourne.
- 2001c, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: Queensland Water Reform*, Melbourne.
- 2001d, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: New South Wales Water Reform*, Melbourne.
- 2001e, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: South Australia Water Reform*, Melbourne.
- 2001f, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: Western Australia Water Reform*, Melbourne.
-

—2001g, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: Australian Capital Territory Water Reform*, Melbourne.

—2001h, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: Northern Territory Water Reform*, Melbourne.

—2001i, *Assessment of Government's Progress in Implementing the National Competition Policy and Related Reforms: Murray-Darling Basin Commission Water Reform*, Melbourne.

—2002, *2002 NCP Assessment Framework for Water Reform*, Melbourne.

NLWRA (National Land and Water Resources Audit), *Australian Water Resources Assessment 2000, Surface and Ground Water Availability and Quality*, Natural Heritage Trust 2001, Canberra.

New South Wales Government 2002, *Report to the National Competition Council on the Application of National Competition Policy in New South Wales*, Sydney.

—2001a, *Interim State water management outcomes plan*, Sydney.

—2001b, *Water policy advice to water management committees*, Sydney.

Northern Territory Government 2002, *Annual Report on the Implementation of National Competition Policy 2002*, Darwin.

PC (Productivity Commission) 1999, *Impact of Competition Policy Reforms on Rural and Regional Australia*, Australian Government Publishing Service, Report no. 8, Canberra.

— 2000, *International benchmarking Arrangements for Setting Drinking Water Standards*, AGPS, Melbourne.

— 2002, *Trends in Australian Infrastructure Prices 1990-91 to 2000-01*, AusInfo, Canberra.

PPK Environment & Infrastructure 1997, *Assessment of the Impact of the Loxton Irrigation District Floodplain Health and Implications for Future Options*, Adelaide

State Government of Victoria 2002, *National Competition Policy: Report for the Third Tranche Assessment on Victoria's Implementation of the National Competition Policy, Volume 1*, Melbourne.

Queensland Government, 2002, *Sixth Annual Report to the National Competition Council*, Brisbane.

WSAA (Water Services Association of Australia) 2001a, *The Australian Urban Water Industry: WSAA Facts*, Melbourne.

—2001b, *Urban Water Use and Management in Australia*, Submission to the Senate Standing Committee on the Environment, Communications, Information Technology and the Arts, Melbourne.

—2000, *The Australian Urban Water Industry: WSAA Facts*, Melbourne.