Assessment of Governments' Progress in Implementing the National Competition Policy and Related Reforms

TASMANIA WATER REFORM

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NATIONAL COMPETITION COUNCIL

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The National Competition Council

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

It is a federal statutory authority which functions as an independent advisory body for all governments on the implementation of the National Competition Policy reforms. The Council's aim is to '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

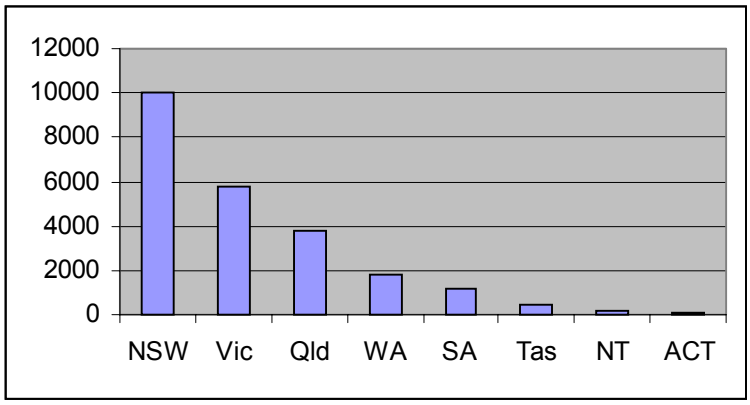
ANCID	Australian National Committee on Irrigation and Drainage
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
AUSRIVAS	Australian River Assessment System
CoAG	Council of Australian Governments
CSO	Community Service Obligation
DPIWE	Department of Primary Industries, Water and Environment
GPOC	Government Prices Oversight Commission
HLSGW	High Level Steering Group on Water
NCC	National Competition Council
NCP	National Competition Policy
NLWRA	National Land and Water Resources Audit
NWQMS	National Water Quality Management Strategy
SWMA	Surafce Water Management Area
WSAA	Water Services Association of Australia

Introduction

For the last seven years governments across Australia have been implementing the strategic framework for the reform of the Australian water industry. As the reform program is progressing, there has been a growth in both the understanding of the complexity of these reforms and the level of national recognition of the importance of change.

Australia's water use is growing. Water use grew by 59 per cent between 1983-84 and 1996-97, mostly due to increases in irrigated agriculture. Chart 1 illustrates the level of water use for each State and Territory in 1996-97.

Chart 1: Mean annual water use 1996-97 (GL)



Source: National Land and Water Resources Audit (2001)

There has been significant progress since governments first agreed to the reform framework.

- Metropolitan water businesses have shifted from being part of a larger government bureaucracy to customer focussed commercial operations. This has generated benefits such as a real reduction in customer bills of nearly five per cent over the last four years, with improvements in drinking water quality and effluent treatment.

- Most urban Australians face water prices that reflect the amount of water they use and to create an incentive to conserve water.

- The need for water to be allocated to the environment is legally recognised across Australia.

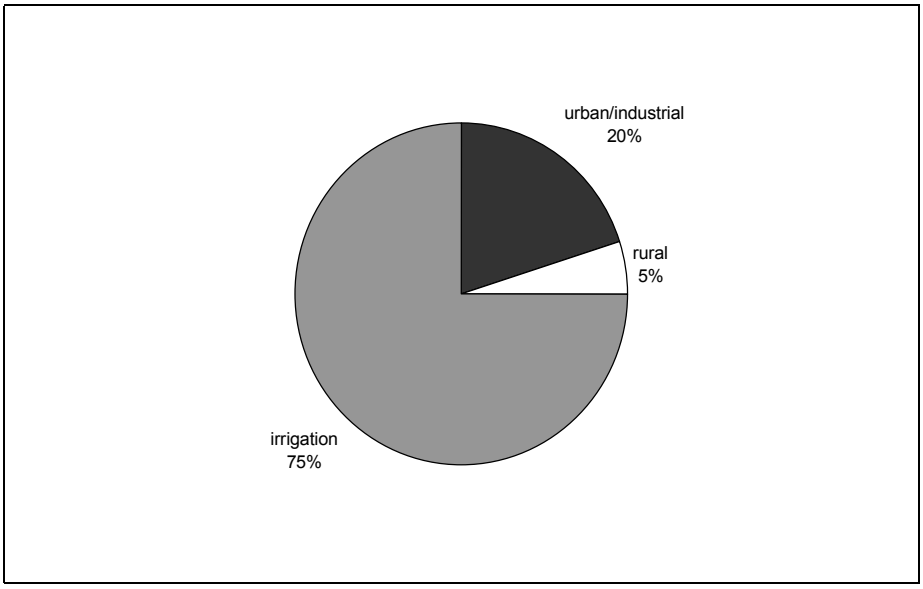
- Regional planning processes on natural resource management issues have started in all States and Territories and communities are heavily involved in consultation on these processes.

- All governments recognise the difficulties that are arising from incomplete scientific information on the ecology and hydrology of water systems, particularly groundwater systems. Governments are addressing this by adopting a precautionary approach to any further allocations of water and increasing the level of monitoring and research.

This is the National Competition Council's second major assessment of the implementation of water reform. The first (the second tranche assessment in June 1999) focussed on the passage of legislation and urban water reform. The June 1999 assessment identified a number of issues that needed to be progressed further before the Council could conclude that all of the States and Territories had met their water reform commitments. Consequently, following the June 1999 assessment there were four follow-up or supplementary assessments that addressed outstanding issues from the 1999 assessment.

The 1999 assessment process saw the passage of legislation that provides the overarching framework for many of the water reforms. The current assessment starts the process of reviewing how these frameworks are being implemented and whether, in practice, they are delivering appropriate reform outcomes. Previous assessments also focussed on the implementation of reforms in the urban sector because the timeframes in the CoAG water reform agreements envisaged urban reforms occurring first. However, as illustrated in chart 2, rural and irrigation water makes up the majority of water use in Australia.

Chart 2: Mean annual water use by category 1996-97 (gigalitres)



Source: National Land and Water Resources Audit (2001)

The Council's 2001 NCP assessment has a much broader focus. While it discusses outstanding urban pricing issues its primary emphasis is on the rural sector covering, pricing, property rights, water trading and environmental issues. This is the first assessment in which the agreements call for the Council to examine the detail of rural reform.

The 2001 NCP assessment has also recognised the importance of establishing clear property rights and allocating water to the environment through a transparent process of community based planning. The key elements of these processes are:

- governments setting timetables and supporting the development plans;
- community consultation and involvement in the planning process;
- the development of scientific information on which to base the plans; and
- finalised plans that provide:
  - sufficient information for stakeholders to understand the plan and its implications for irrigators, the environment and the community generally;
  - water for the environment in a way that reflects the current understanding of environmental needs; and
  - well defined water allocations that provide irrigators with predictability in their property rights.

Assessment

In its assessment the Council has identified that an important issue for New South Wales is the development of well defined property rights, including an appropriate registry system, while for Victoria the assessment raises issues about the process for allocating water for the environment. Both States have provided substantial responses to the Council detailing how they intend to deal with these issues both over the next twelve months and into the future. These will be important issues in the Council's 2002 NCP water assessment. New South Wales is consulting with stakeholders and will review its policy on the water rights registry system before November 2001. The Council will reassess New South Wales's approach to the water rights registry in December 2001.

Overall the Council's 2001 NCP assessment has concluded that all States and Territories have made sufficient progress to receive their 2001-02 NCP payments. However, while the Council found that the Queensland Government has taken a positive and active approach to encouraging reform among local governments, one local government, Townsville City Council has failed to explain why introducing reform of water pricing within its jurisdiction is not in the public interest. In this assessment, the Council recommended a permanent reduction of $270 000 in Queensland's NCP payments from 2001-02 (reflecting the remaining money available to Townsville Council for water reform through the Queensland Competition Authority's Financial Incentive Scheme). This reduction relates to the failure

by Townsville City Council to take a rigorous approach to considering consumption-based price reforms. The Council will reconsider Townsville's approach to two-part tariffs in the 2002 NCP assessment. It will look at both the progress made by Townsville and the State Government's efforts to resolve the issue. At that time, the Council will reconsider whether a continued reduction in competition payments is warranted and the appropriate size of any such reduction.

Finally, Queensland has acknowledged that the Condamine-Balonne is now a stressed river system. Consequently, the establishment of water allocations for the environment and consumptive use is now overdue. The Council will address this issue in its 2002 assessment. The Council is not satisfied that any of the options for setting environmental allocations specified in the draft water resources plan would be adequate to meet the environmental needs of the lower Balonne basin and the internationally listed Narran Lakes wetlands. More generally, the Council is not satisfied with the transparency of current reporting arrangements of the Government's final decisions for setting allocations. Queensland has agreed to address this concern over the next 12 months.

Local and national approaches to reform

The reform framework is a comprehensive approach that addresses the environmental, economic and social issues associated with water reform. It covers both surface and groundwater and recognises that while water reform is primarily a State responsibility some issues need to be addressed by coordination and cooperation between state initiatives. The approach to the Murray-Darling Basin is an obvious example.

State and Territory governments recognise the need for a more coordinated approach and are increasingly looking at water reform issues jointly. While some of these processes are in their early stages, it is the Council's view that they need greater emphasis if water reform generally is going to deliver the outcomes all stakeholders recognise as necessary. The following are examples where national approaches have been initiated to address important reform issues.

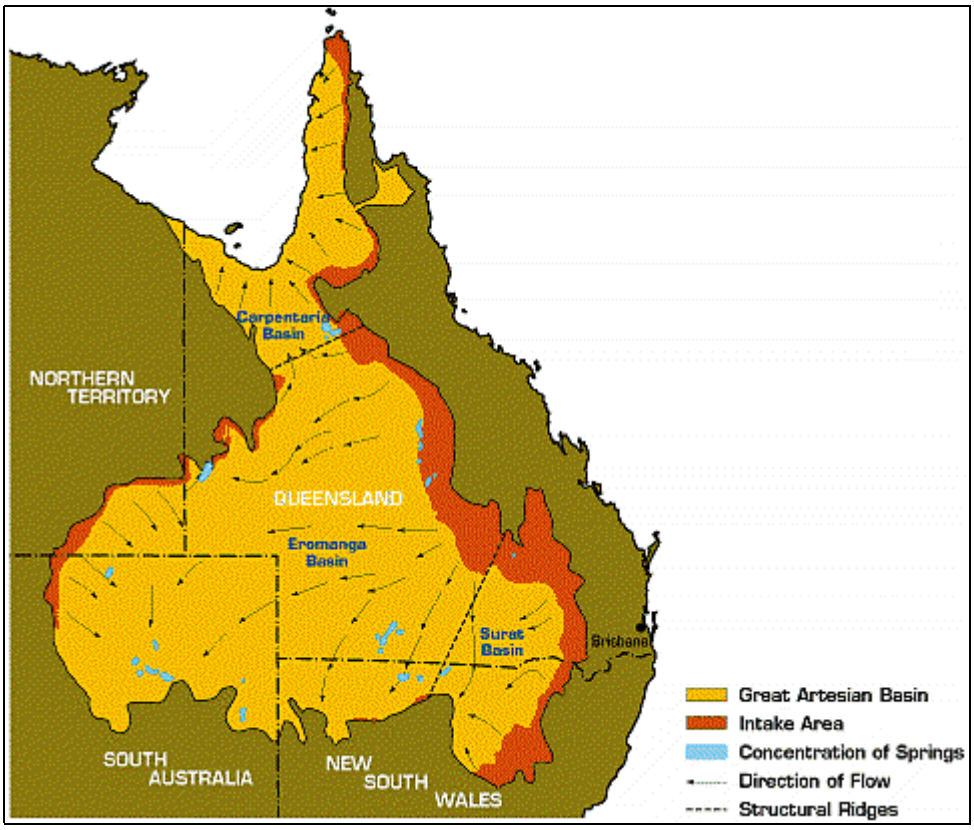
Managing groundwater basins cooperatively

The Great Artesian Basin is the largest artesian groundwater basin in the world. It underlies approximately one-fifth of Australia and extends beneath the arid and semi-arid parts of Queensland, New South Wales, South Australia and the Northern Territory, stretching from the Great Dividing Range to the Lake Eyre depression. The Basin covers a total area of over

1 711 000 square km and it has an estimated total water storage of 8 700 million megalitres (a megalitre is one million litres and is equivalent to about half the water in an Olympic swimming pool).

Many bores initially flowed at rates of over 10 megalitres per day. However, the majority of flows are now flowing between 10 000 litres and six megalitres per day. Total flow from the Basin reached a peak of over 2 000 megalitres per day around 1915, from approximately 1 500 bores. Since then, artesian pressure and water discharge rates have declined, while the number of bores has increased. The total flow from the basin during 1995 was in the order of 1 200 megalitres per day.

Figure 1: Great Artesian Basin



Source: www.gab.org.au (accessed July 2001)

The Great Artesian Basin Strategic Management Plan is a good example of a cooperative approach to managing groundwater resources. This plan was released in September 2000 after agreement by the Commonwealth, New South Wales, South Australia and Northern Territory Governments.

The plan proposes the following strategies to address basin management issues:

- a commitment to resource management partnerships to accelerate change;
- programs to encourage and achieve agreed understanding of the worth of the water resource;

- expanded infrastructure renewal programs, underpinned by public investments to:
  - stimulate private investments to minimise water losses and wastage; and
  - provide a platform for further investments in meeting environmental, social and economic objectives;
- changes to institutional arrangements and water entitlement systems to provide security of access to water (including water supply to priority groundwater-dependent ecosystems). Opportunities for new higher-value uses and clear responsibility for maintaining bore and reticulation systems maintenance;
- promotion of the socio-economic, environmental and heritage values of the basin;
- an emphasis on the need to sustain commitments to infrastructure renewal, maintenance and improved management;
- programs to improve knowledge and the technology underpinning improved management; and
- monitoring and evaluation to assess progress towards specific natural resource management outcomes sought through the plan.

These strategies provide guidance for governments, water users and other stakeholders on policies, programs and actions necessary to attain optimum economic, environmental and social benefits from the existence and use of basin groundwater resources.

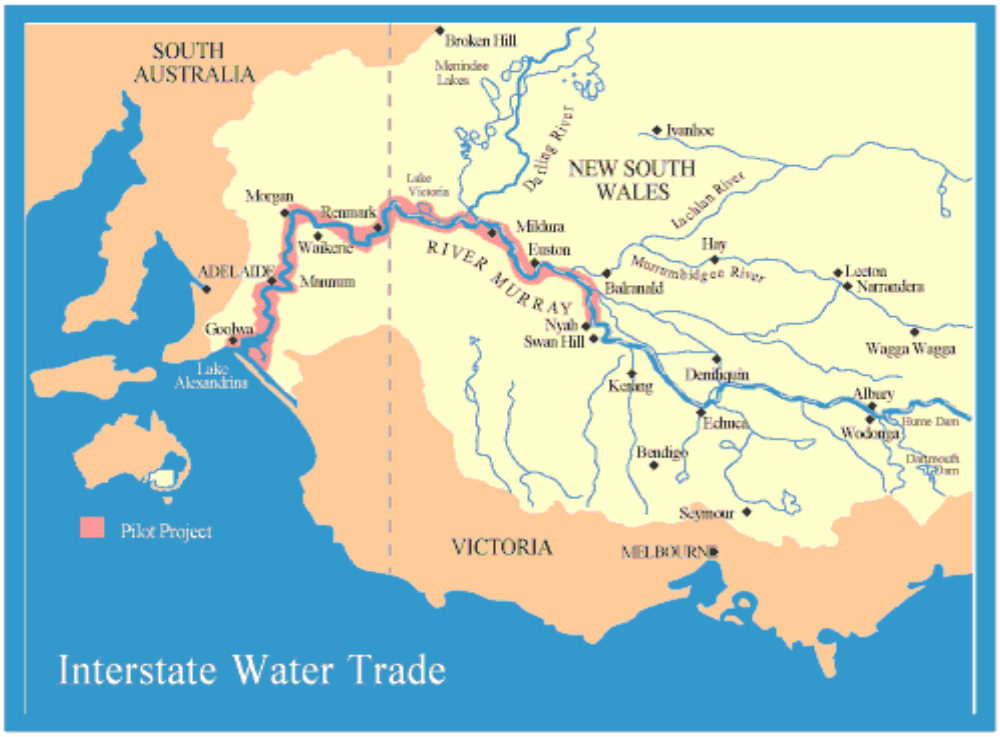
This Great Artesian Basin Strategic Management Plan is expected to be implemented over the next 15 years at a cost of $286 million.

Interstate Trading

The CoAG water agreements explicitly recognise interstate trading as an important component of water reform. This view is reinforced by the observations made by the CSIRO that while '..intrastate trading is driving the market for water, interstate trading arrangements are keeping the various markets in place.' (CSIRO 2000, p.2)

The Murray-Darling Basin Commission's Pilot Interstate Water Trading Project was established to promote interstate water trading within the basin. The objective of the pilot is to facilitate and promote interstate trade of high-security water in the Mallee region of South Australia, Victoria and New South Wales as shown in figure 2.

Figure 2: The pilot interstate water trading project area



Source: CSIRO (2000)

The pilot, in operation since 1998, has resulted in:

- the increased value of water use in the basin by allowing water to move to higher value uses;
- the expansion of the number of traders able to participate in the water trading marketplace by allowing permanent trade to occur across State boundaries; and
- the movement of water out of degraded or areas of high environmental risk. (CSIRO 2000)

The Murray-Darling Basin Commission keeps a register of all transfers and calculates exchange rates for each trade. It must also assess each trade on the basis of any environmental damage it may cause and the physical capability of the system to deliver the water. The exchange rates are designed to account for transmission system losses in the river channel and for changes in the level of water supply security. The security can fall in response to the decreased ability to retain water within storages as the water moves upstream.

According to the review, the pilot enabled 51 trades — accounting for more than 9.3 gigalitres — between 1998 and September 2000. The total value of these trades was more than $9.9 million, with three trades individually worth more than $1 million. More than 90 per cent of the water traded (more than 8.8 gigalites) was transferred to South Australia.

The pilot was assessed in a two-year review of interstate trading (reported by the MDBC 2000). The review examined the net effect of the pilot and noted areas where progress or improvement could be made. The review findings included:

- that arrangements for interstate trade are improving;
- that administrative arrangements are an impediment to efficient trade and need to be streamlined;
- that interstate trading is increasing the value of water use in the Murray-Darling Basin;
- that interstate trade has had no measurable adverse social impact during the pilot;
- that environmental impacts are mixed. The environmental flow impact has probably been positive, while the salinity impact is expected to be negative;
- that exchange rates are poorly understood; and
- that mechanisms for enforcement need to be improved.

While going a long way to promote interstate trade, the Murray-Darling Basin Commission trial is restricted in both the area covered and the type of water rights that can be traded. Consequently, there are three issues governments will need to focus on in the future.

First, different types of water property rights exist within the basin. In some instances, inconsistent property rights could impeded interstate trade. A consistent approach to the key components of property rights, for example, security of tenure and security of water — is needed. Also needed is an exploration of opportunities to better define and specify the water property rights across the basin and to improve the exchange rate arrangements to reflect fully the extent of overallocation, security of tenure and the salinity impact. The Council notes the effort of the Murray-Darling Basin Commission in attempting to resolve some of these issues. In the 2002 NCP assessment, the Council will review the progress made in addressing concerns about property rights and, where relevant, check whether all jurisdictions have cooperated to resolve difficulties.

Second, the broader environmental impacts of trading will depend on the degree to which individual States set and enforce irrigation and drainage plans. The Murray-Darling Basin Commission and the member States need to consider further the best means by which to address environmental impacts of interstate trade.

Third, as the previous two issues are addressed, consideration needs to be given to expanding the pilot both in the area covered, and the types of licences that can be traded. For example, consideration is currently being given to the

creation of a second pilot zone between New South Wales and Queensland in the Border Rivers catchment.

Restoration of the Snowy River

The Snowy River is an Australian icon which has been degraded over the last 50 years as a result of the Snowy Mountains Hydro-electric Scheme. Its cultural, social and environmental values to the Australian community are immense and thus Governments have agreed that it is the top priority for restoration. The Victorian, New South Wales and Commonwealth Governments have agreed to restore this river with a combination of flow improvements generated by water saving projects and habitat improvements. The three governments have agreed to provide $375 million over 10 years to achieve this.

National Benchmarking

States and Territories have established a national process to extend inter-agency comparisons and benchmarking. Benchmarking systems are in place for the non-metropolitan urban and rural sectors, *WSAA Facts* is to be used to benchmark major urban service providers.

All States and Territories are participating in benchmarking projects.

The Water Services Association of Australia has been benchmarking major urban water service providers for 6 years. The most recent report covers 1999-2000 data. *WSAA Facts* (2000) covers 21 water businesses and provides information on:

- customer profiles and water volumes;
- service performance including, health, environment, service delivery and pricing;
- infrastructure; and
- economic and financial performance.

For the non-metropolitan urban sector, a report is compiled by the Australian Water Association under the direction of the Non Major Urban Water Utilities Working Group. The second national benchmarking report for the non-metropolitan urban service providers covered 1998-99 data and was released early in 2000. The report provides information covering 67 utilities from all States and the Northern Territory. It includes information on:

- customer and utility profiles;
- prices and revenues;

- energy consumption for water supply and environment (for waste water);
- levels of service;
- operating costs; and
- whole of business performance summary.

In total the non-metropolitan urban and *WSAA Facts* benchmarking reports cover water services to 83 per cent of the Australian population.

For rural schemes the second industry benchmarking report, covering 1998-99 data was prepared by the Australian National Committee on Irrigation and Drainage and released in February 2000. The report provides comparisons of performance in four key areas:

- systems operation;
- environmental issues;
- business processes; and
- financial aspects.

The Australian National Committee on Irrigation and Drainage is continuing to improve and refine their approach to benchmarking. The report notes, however, that data collection and reporting processes are still being developed and, therefore, this limits the ability to compare information between the 1997-98 and 1998-99 reports. It appears that the industry has a strong commitment to this project, as there was a 40 per cent increase in the number of rural service providers participating in the rural benchmarking project.

National Land and Water Resources Audit

The audit is a program of the Natural Heritage Trust. It was set up in 1997 to help improve decision-making on land and water resource management in Australia. In 2000, the fourth water resources assessment was undertaken in partnership with Commonwealth, State and Territory agencies.

The national audit provides summary information at national, State and Territory and surface water basin and groundwater management unit levels. It also identifies gaps and monitoring requirements which need to be addressed in order to make more effective water resource management decisions.

The key outputs of the water resources audit are to better define Australia's surface and groundwater management areas. The audit also attempted to quantify the amount of water being used and how it is being used and allocated.

The audit found that:

- of Australia's surface water resources, 84 of 325 basins (25 per cent) are either fully allocated or overallocated in terms of sustainable flow regimes. Of the 325 surface water basins, 44 have formal allocations for the environment;

- of Australia's groundwater resources, 161 of 538 groundwater management areas are either fully allocated or overallocated in terms of the sustainable yield assessments;

- water use efficiency, recycling, trading and pricing are increasingly becoming priorities and provide opportunities for development. To support this shift in development emphasis, improved information on water use is essential;

- water availability is at the centre of economic development and environmental management; and

- it is essential that Australia capitalise on the data collection investment of States and Territories and the audit and put in place Australia wide assessment and reporting systems.

The National Land and Water Resources Audit also produced a *Dryland Salinity Assessment 2000* in collaboration with the States and Territories which defines the distribution and impacts of dryland salinity across Australia.

The dryland salinity assessment concluded:

- approximately 5.7 million hectares of Australia are within regions mapped to be at risk or affected by dryland salinity. It has been estimated that in 50 years time the area of regions with a high risk may increase to 17 million hectares (three times as much as now);

- some 20 000 kms of major road and 1600 kms of railways occur in regions mapped as high risk. Estimates suggest these could be 52 000 kms and 3600 kms respectively by 2050;

- salt is transported by water. Up to 20 000 kms of streams could be significantly salt affected by 2050;

- Areas of native vegetation (630 000 hectares) and associated ecosystems are within regions with areas mapped to be at risk. These areas are projected to increase by up to 2 000 000 hectares over the next 50 years; and

- Australian rural towns are not immune: over 200 towns could suffer damage to infrastructure and other community assets from dryland salinity by 2050.

National Action Plan for Salinity and Water Quality

On 3 November 2000, CoAG endorsed the Commonwealth's proposal for an action plan to address salinity, particularly dryland salinity, and deteriorating water quality issues. These issues are of major national significance and are appropriately handled through a national action plan.

Salinity and deteriorating water quality are seriously affecting the sustainability of Australia's agricultural production, the conservation of biological diversity and the viability of our infrastructure and regional communities. At least five per cent of cultivated land is now affected by dryland salinity – this could rise as high as 22 per cent. One third of Australian rivers are in extremely poor condition, and land and water degradation, excluding weeds and pests, currently costs approximately $3.5 billion per year.

The Action Plan builds on the achievements of the Natural Heritage Trust, initiatives by individual State and Territory governments, the CoAG water reforms, and the work of the Murray-Darling Basin Commission.

The goal of the Action Plan is to motivate and enable regional communities to use coordinated and targeted action to:

- prevent, stabilise and start to reverse trends in dryland salinity affecting the sustainability of production, the conservation of biological diversity and the viability of our infrastructure; and

- improve water quality and secure reliable allocations for human uses, industry and the environment.

The national Action Plan will involve six elements, all of which are necessary to achieve lasting improvements over dryland salinity and deteriorating water quality:

1. targets and standards for salinity, water quality and associated water flows, and stream and terrestrial biodiversity agreed either bilaterally or multilaterally, as appropriate;

2. integrated catchment/regional management plans developed by the community and accredited jointly by Governments, in the 20 agreed catchments/regions that are highly affected by salinity, particularly dryland salinity, and deteriorating water quality;

3. capacity building for communities and landholders to assist them to develop and implement integrated catchment/region plans, together with the provision of technical and scientific support and engineering innovations;

4. an improved governance framework to secure the Commonwealth, State and Territory investments and community action in the long term: including property rights; pricing; and regulatory reforms for water and land use;

5. clearly articulated roles for the Commonwealth, State, Territory, local government and community to provide an effective, integrated and coherent framework to deliver and monitor implementation of the action plan; and

6. a public communication program to support widespread understanding of all aspects of the action plan so as to promote behavioural change and community support.

The action plan involves new expenditure by Commonwealth, State and Territory governments of $1.4 billion over the next seven years. The Commonwealth's financial contribution of $700 million for regional implementation of the action plan will be matched by new State and Territory financial contributions.

CoAG agreed that compensation to assist adjustment where property rights are lost will need to be addressed in developing catchment plans. While any such compensation is the responsibility of the States and Territories, the Commonwealth is prepared to consider making an additional contribution, separate from the $700 million announced to implement the action plan.

National Objectives for Biodiversity Conservation

In June 2001, the Commonwealth, New South Wales, Victoria, South Australia, Western Australia and the ACT endorsed an overarching policy document that sets targets and objectives for national biodiversity conservation in Australia.

The objectives cover such areas as:

- protection and restoration of native vegetation and terrestrial ecosystems;
- freshwater ecosystems, marine and estuarine ecosystems;
- control of invasive species;
- integration of measures for dryland salinity;
- promotion of ecological sustainable grazing;
- minimisation of the impact of climate change on biodiversity;
- maintenance of the biological knowledge held by indigenous people;

- improvement in scientific knowledge and access to scientific information; and

- introduction of institutional reform in integrated regional management and review and remove any legislative impediments to biodiversity conservation.

High Level Steering Group

The High Level Steering Group on Water provides a good example of intergovernmental cooperation in water reform. The group is set up under the Agriculture and Resource Management Council of Australia and New Zealand and comprises representatives of the agriculture and environment agencies of the Commonwealth and Australian State Governments.

This group's role is to help maintain the impetus of the CoAG water reforms, by reporting to the Agriculture and Resource Management Council of Australia and New Zealand and the Australian and New Zealand Environment and Conservation Council on progress in implementing reform. Importantly, the High Level Steering Group is also involved in valuable work to assist in implementation of the water reforms. This has included commissioning research on key reform issues such as costing and charges for externalities, establishing a consistent national approach to water trading, institutional approaches to water resource management, water for the environment and opportunities for improved management of groundwater. It is intended that, once finalised, these papers will be available on the Commonwealth Department of Agriculture Fisheries and Forestry website.

The Council's approach to assessing progress

The Council's approach to assessing the water component of the 2001 NCP assessment has recognised the complexity of the issues and the level of detail and breadth of the agreements. This assessment needs to accommodate the fact that each State and Territory faces different problems and has started with different sets of environmental and institutional characteristics.

The Council based its 2001 assessment on information provided by State and Territory Governments, its own research, and other reports including:

- The Australian Urban Water Industry (WSAA Facts);

- The National Land and Water Resource Audit Assessment of Water Resources 2000; and

- work by the High Level Steering Group on Water.

Stakeholders have also had a substantial input into this assessment. The Council received 10 submissions from irrigators and environmental groups. None of these submissions questioned the need for reform, or the underlying objectives of the water agreements. Generally, the submissions discussed the process and speed of reform and which aspects of the reform package should be given priority. However, there is universal recognition that appropriate water reforms are fundamental to Australia's future.

To facilitate a broad understanding of the Council's approach and to enable interested stakeholders to provide submissions the Council released a framework for the 2001 NCP assessment in February 2001.

The CoAG water reform agreements generally provide very broad descriptions of the water reform obligations. Because of this, the framework developed a more detailed explanation and interpretation of the water reform obligations. The framework did not redefine the commitments determined by CoAG, rather it's aim was to:

- provide a clear, transparent basis for assessment particularly in relation to matters considered in previous assessments;

- identify the type of information that jurisdictions should provide to demonstrate compliance; and

- provide a basis for early identification and bilateral discussion of areas where achieving reform outcomes is proving difficult.

The assessment framework is at appendix A to this document.

To further assist informed debate the Council also released seven discussion papers (see box 1). The discussion papers are available on the Council's website.

In this report the Council has provided comprehensive coverage of the water reform assessment issues identifying current and future issues and providing sufficient information to inform stakeholders of the reasons for the assessment.

Box 1: Background information papers on water reform commitments

Rural water pricing - covers full cost recovery in the rural sector including CSOs and positive rates of return.

New investment in rural water infrastructure - discusses a methodology to assess the economic viability and ecological sustainability of new investments in this area.

Institutional reform issues in the water industry - discusses why regulation is important and examines the potential for conflicts of interest between regulation and service provision and arrangements to deal with these.

Environmental requirements of the CoAG Water Reforms (paper prepared with the assistance of Environment Australia) - outlines the national agreements on the environment that may be useful as a guide in reporting progress against the environmental requirements of the water framework.

Implementing the National Water Quality Management Strategy (paper prepared by Environment Australia and the Department of Agriculture Fisheries and Forestry Australia in consultation with State and Territory government agencies) - the Commonwealth, after consultation with States and Territories, has proposed that implementation of the guidelines should be assessed through a two yearly review process. This paper provides a list of the component modules of the National Water Quality Management Strategy guidelines and their current status. The Council will be looking to jurisdictions to show how the guideline principles have been adopted in the 2001 NCP assessment and subsequent assessments.

Defining water property rights - discusses the specification of water property rights so as to promote efficient and sustainable investment and trade.

Water reform and legislation review - outlines the status of legislation reviews of relevant water legislation for each jurisdiction based on a stocktake report conducted by Marsden Jacob consultants.

Tasmania

Around 97 per cent of total water use in Tasmania comes from surface water sources. Water management, use and supply in Tasmania is dominated by hydroelectricity generator 'Hydro Tasmania' with a network of 51 major dams and a storage capacity of 26 000 gigalitres. Other industry uses include instream fish farming (353 gigalitres per year), irrigated agriculture (276 gigalitres per year), industrial and commerce (60 gigalitres per year), and domestic supply (42 gigalitres per year).

Groundwater accounts for around 3 per cent of the total water use in Tasmania. For groundwater, irrigated agriculture accounts for 46 per cent of use and mining for 35 per cent. Characteristics of many of the aquifers mean that low volumes of groundwater are used for stock and domestic purposes.

Urban water and wastewater services in Tasmania are provided by 29 local governments. There are three metropolitan bulk water authorities that provide services to 18 local governments. These are Hobart Regional Water Authority, the North West Regional Water Authority and the Esk Water Authority. The remaining local governments take, treat and reticulate water themselves. The exceptions are the Tasman Council that does not provide urban water services and the Glamorgan—Spring Bay Council that operates the Prosser Water Supply Scheme under contract to the Rivers and Water Supply Commission.

Less than 10 per cent of irrigation water used in Tasmania comes from publicly owned water infrastructure. The vast majority of irrigation water is sourced from unregulated streams or on-farm storages using privately owned infrastructure. Tasmania has three government irrigation scheme providers: the Cressy-Longford, South-East and the Winnaleah schemes. All schemes are managed by the Rivers and Water Supply Commission.

The Minister for Primary Industries, Water and the Environment is responsible for resource management and water allocations. The Minister is also one of the shareholders of the Rivers and Water Supply Commission.

Progress on reforms

Pricing and cost recovery

Urban water services

The Council is satisfied that for the most part Tasmania's urban water and wastewater services are recovering costs consistent with minimum CoAG commitments. Prices for urban services are set by local government's although the Government Prices Oversight Commission is currently completing an audit of progress by service providers against the CoAG commitments.

Tasmania has initially focused it efforts on the largest service providers and on the performance of water rather than wastewater services and is generally meeting commitments. However, there is evidence that a substantial number of the State's largest urban retail and distribution services are not operating on a commercially viable basis as defined by the CoAG guidelines. This includes Launceston water services, Hobart water and wastewater businesses, Glenorchy wastewater, and Clarence water services.

The Council understands that Launceston expects to reach the lower band of the CoAG guidelines next financial year. Tasmania has also advised that improvements in Hobart's water and wastewater businesses will be pursued before the 2002 NCP assessment.

Demonstration of further progress on full cost recovery particularly among the major service providers, will be a significant consideration for the 2002 NCP assessment. The Council will also look for Tasmania to have made progress for all service providers in the following areas: consideration of a more explicit and rigorous treatment of externalities associated with broader environmental effects of urban water use; improved asset valuation; and consideration of avenues for recovering taxes or tax-equivalent regimes in charges by service providers.

Hobart Water and North West Regional Water Authorities already have two-part tariffs, and Esk Water Authority will implement two-part tariff arrangements from July 2001. Tasmania provided a timetable for implementing two-part tariffs among urban water providers. The full implementation is expected to be largely completed by 2002. From July 2001, all free water allowances with the exception of the Derwent Valley will be removed. While bulk wastewater charges are consistent with CoAG commitments, the Council has encouraged Tasmania to consider introducing trade waste charges. The issue of trade waste charges and continued progress with implementation of two-part tariffs will be considered in the Council's 2002 NCP assessment.

Tasmania has released its 'Community Service Obligations Policy and Guidelines for Local Government in Tasmania' (Department of Premier and Cabinet 2000) which provides a more coordinated and focused framework for endorsing new CSOs. Two of the three bulk water providers are transparently identifying CSOs, and all local governments are now required to identify and report against the CoAG guidelines. However to date very few CSOs have been identified. Tasmania expects to progress reform further as a result of the Government Prices Oversight Commission audit. Again the Council will look for significant progress in the 2002 NCP assessment.

The Council is satisfied that reforms undertaken by Tasmania to date have decreased the potential for non-transparent cross-subsidies and minimum commitments have been met. The Council will undertake a broader and a more systematic examination of cross-subsidies in the Tasmanian water sector particularly among retail and distribution services as part of future assessments.

Rural water services

Of the three government irrigation scheme providers, the Cressy—Longford Irrigation Scheme and the Winnaleah Irrigation Schemes meet the lower bound of the CoAG pricing guidelines. Consistent with CoAG commitments, a price path has been established for the South East Irrigation Scheme. However full cost recovery is expected albeit within the decade. Tasmania has advised that full cost recovery for the South East Irrigation Scheme could be expected much sooner as a result of efficiency gains. Hence the arrangements in rural water services to recover full costs still has some way to go. The Council will revisit this issue in future assessments to ensure progress toward full cost recovery for the South East Irrigation Scheme.

In terms of unregulated water resources, Tasmania has established a new raw water pricing system to reflect the costs of licences, and an administration fee for licence administration and variable management fees to cover bailiffing, compliance auditing, and water quality monitoring. This has resulted in charges that reflect the services provided.

The Council is satisfied that the consumption based pricing arrangements for both regulated and unregulated rural water resources meet the 2001 commitments. The Cressy—Longford and Winnaleah schemes use two-part pricing consisting of a fixed charge per megalitre of irrigation right, and a volumetric charge based on water used. The South East Irrigation Scheme water charges are based on the volume of water right held by the user.

The Council is satisfied that all subsidies to these schemes for the costs of repayments and interest on loans are transparently reported and do not undermine the objectives of the CoAG framework. The Council is also satisfied that commitments in regard to cross-subsidies have been met.

In the 2001 Tasmanian Budget Statement, Tasmania provided $10 million to finalise a Water Development Plan by the end of 2001. The Plan is expected to recommend the construction of new water storages across the State. As none of the projects identified in the Plan has been given the approval of the Tasmanian Government to proceed, 2001 NCP commitments have been met. The Council will look for economic and environmental assessments consistent with CoAG's requirements for ecologically sustainable and economic viability once any approval for new dam developments has been given.

The Council is satisfied that for the 2001 NCP assessment Tasmania has complied with water pricing and cost recovery commitments.

Institutional reform

As noted earlier the Tasmanian Government has only a small role in service provision. The State Government owned Rivers and Water Supply Commission manages only three irrigation schemes and supplies some bulk water and other services. Urban and bulk water service provision is largely a local government responsibility. As noted in the second tranche assessment the urban bulk water service providers are subject to price regulation by the Government Prices Oversight Commission. Therefore, there is full separation in price regulation. For local government retail service providers the Council recognises 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.

Tasmania is improving transparency and accountability through:

- the involvement of the Government Prices Oversight Commission, as an independent regulator, in monitoring and reporting;
- the local government key performance indicator project;
- a commitment by Tasmanian officials to take a proposal to the Premier within 12 months, on mechanisms to improve the transparency of reporting on local government performance; and
- the Government's intention to develop service charter and complaints handling mechanisms with local government water providers.

The Council will reassess progress against these initiatives in 2002.

Fur rural services, the Rivers and Water Supply Commission is currently negotiating moving its three irrigation districts to local management. This will significantly affect its business and the type of customer service standards and pricing arrangements that are applicable. While the Council has concerns about the level of separation and transparency in the current arrangements, it will reconsider this in the 2002 NCP assessment when the

scope of the Rivers and Water Supply Commission will be clearer. In particular, the Council will 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.

Tasmania has made sufficient progress for the 2001 NCP assessment in the areas of national benchmarking and commercial focus for metropolitan service providers.

With regard to devolution of irrigation scheme management, Tasmania has reviewed options for local management and considered a range of alternatives with local irrigators involved in defining and considering those alternatives. A decision has been made on local management for the Cressy—Longford Irrigation Scheme. However, the institutional arrangements for the other two schemes, Winnaleah and South East Irrigation, are still to be finalised. One of the key reasons why decisions have not been made for these schemes is that irrigators have chosen to wait until research and information is available from the Cressy—Longford process to assist them in their decision-making.

The Council has found that Tasmania is working through the processes to satisfy the commitment for a greater degree of responsibility in the management or irrigation areas including moves toward formal devolution of the Winnaleah and South East Irrigation schemes. The Council understands that all legal impediments to devolution have been removed and the decision now rests with the irrigators themselves. The Council is satisfied that Tasmania has complied with institutional reform commitments for this assessment, and will monitor developments in the 2002 NCP assessment.

Allocation

Licences, including special licences are issued under the *Water Management Act 1999* and are the main tools used to ensure water property rights in Tasmania. Licences are issued separately to the land title. The Act also formalises Tasmania's approach to providing water for the environment and consumptive uses. This is done through statutory water management plans. The Act provides for water management plans where there is significant competition for water resources (particularly between consumptive users and the needs of the environment). The purpose of these plans is to manage both ground and surface water quantity and quality within a catchment. These plans are of an indefinite duration, and are to be reviewed at least every five years. Tasmania has a timetable for the preparation of water management plans including the current status of the plans. A stakeholder steering committee will aid the Minister in the setting up of water management plans.

In Tasmania, water provisions for the environment are set as environmental water requirements for all water systems in one of two ways: in the form of a 'notional or interim allocation limit' in under-utilised catchments together

with triggers at which robust environmental flow assessments will occur, or the formal assignment of environment water provisions in areas that are highly or fully developed or stressed to be set in water management plans.

Tasmania has identified 16 stressed surface water systems that required action in June 2001. Tasmania has determined the environmental water requirements for all stressed systems and is now well underway to meet the timetable for completion of water management plans.

Trading

Trading in Tasmania will occur where the water resource system is at a highly or fully allocated level. Water trading will allow new users to obtain water or existing users to raise their supply without impacting on the sustainability of the water system.

Water trading in Tasmania has been established through the *Water Management Act 1999* (for water resources outside formal irrigation districts) and the *Irrigation Clauses Act 1973* (within formal irrigation districts), which provides for widespread trading including in unregulated areas. Outside formal irrigation districts, the Minister for Primary Industries, Water and Environment regulates all transfers. Within formal irrigation districts, the water entity responsible for the administration of the district regulates all transfers.

Water trading in Tasmania is at an early stage of development. It has been occurring for the last two years within the three regulated irrigation districts and to a small extent in unregulated areas. The development of water management plans as competition for water resources emerges is expected to provide for the further expansion of trading arrangements, including trading rules for the temporary and permanent transfer of water allocations within areas.

The Council is satisfied that Tasmania has made satisfactory progress in water allocation reform commitments and has met water trading commitments for the 2001 assessment. The Council will look for further progress in trading arrangements in future assessments particularly with the introduction of water management plans.

Environment and water quality

Tasmania is implementing integrated resource management through a Resource Management Planning System. There are 28 catchment management and regional natural resource management committees operating throughout the State. These committees are developing catchment management plans and regional natural resource management strategies. The State Government is coordinating the program through partnership

agreements with local government. The Government is to develop a State Natural Resource Management Strategy as an overarching framework to coordinate all natural resource management activities by end 2001.

Specific actions to address broader catchment management issues include the development of rivercare plans and weed management plans. The Council will monitor further progress in this area including developments concerning the State Natural Resource Management Strategy in the 2002 NCP assessment.

Tasmania has continued to implement a further four National Water Quality Management Strategy modules through a State policy on water quality management. As part of this policy, protected environmental values for surface water quality are almost complete. These will be used to set water quality objectives across catchments in accordance with the national strategy and a state strategy to be developed. Other initiatives in this area include the development of landcare guidelines and investment in effluent and wastewater re-use.

The Council is satisfied that Tasmania has complied with environment and water quality reform commitments.

Consultation and education

The Tasmanian Government has undertaken extensive public consultation on such matters as the Water Management Act, the new licence fee structure, the setting of environmental water requirements, and the development of water management plans. For urban water services, the Tasmanian Government uses the strategic and operational plan requirements of the Local Government Act to require local councils to undertake public consultation processes in relation to water delivery issues including pricing. For rural supply areas, the Rivers and Water Supply Commission undertakes consultation on water pricing through meetings with customers including irrigators and the water management committees.

In regard to developments in public education, the Department of Primary Industries, Water and the Environment is developing a community access water information website, and continues to publicly release state of rivers reports on water quality and environmental monitoring.

The Council is satisfied that Tasmania has complied with public education and consultation reform commitments.

Assessment

Tasmania has met reform commitments required for the 2001 NCP assessment. The Council acknowledges the substantial degree of commitment and progress of water reforms in the State.

Pricing and cost recovery: urban

Full cost recovery

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

- at most the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital; and
- at least, the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax) regimes, the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.

Asset values should be based on the deprival methodology unless an alternative approach can be justified and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment. Governments can still provide assistance to special needs groups through community service obligations but this should be done in a transparent way (clauses 3a, b and c).

Tasmania arrangements

Commercial viability

In March 2001 Tasmania released a revised edition of its 'Urban Water Pricing Guidelines: Consistent with CoAG Reforms'. These revised guidelines aim to assist the practical implementation of the broad principles provided by the CoAG pricing guidelines. They take account of the developments since the original version released in October 1999 including the State's November 2000 CSO policy. The guidelines also provide more explicit guidance in relation to development of two-part tariffs.

Regulation under the *Local Government Act 1993* has been introduced to require sufficient information to be included within local government operational plans to demonstrate compliance with the guidelines. The Government Prices Oversight Commission will audit this information annually. Where non-compliance is identified the business activity concerned may be declared for formal prices oversight by the Commission.

The Council has been advised that the Government Prices Oversight Commission's first audit will continue for another six months. However, Tasmania has provided preliminary results of the audit. While incomplete the information provided shows that 14 water businesses were commercially

viable as defined by the CoAG guidelines. Nine wastewater businesses also earned sufficient revenue to recover at least the lower bound of the CoAG guidelines although the Council notes competitive neutrality adjustments were not included for a number of local governments.

Taxes and tax equivalents

The Government Prices Oversight Commission guidelines note that the application of the guidelines should be consistent with the principle of full cost attribution to ensure compliance with competitive neutrality commitments under the Competition Principles Agreement (see Department of Treasury and Finance 1997). This includes provision for costs such as taxes or tax equivalents including local government rates and state land taxes. The Government Prices Oversight Commission's guidelines also note that there is no need to include the goods and services tax (as all water businesses are exempt regardless of ownership) or income tax (because of the use of a pre-tax rate of return).

The Government Prices Oversight Commission audit information suggests that competitive neutrality adjustments are included for a significant number of local government water and wastewater services. However, advice has not been provided as to why a more extensive coverage of competitive neutrality adjustments has not been achieved.

Externalities

The Government Prices Oversight Commission guidelines define externality cost to be those costs imposed on, or incurred by, entities other than the local government, for the prevention or mitigation of environmental damage, and recovered from local government through the imposition of environmental levies or fees. The Government Prices Oversight Commission guidelines further state that these costs should only be included where they are actually incurred and paid by the Council.

Available information suggests that no local government service currently pays for externalities and the Government Prices Oversight Commission audit information does not address this issue.

Rate of return

For retail and distribution services the March 2001 water pricing guidelines recommend returns be set between zero and the entities' weighted average cost of capital. This is consistent with CoAG commitments. The Government Prices Oversight Commission has estimated a pre-tax real weighted average cost of capital of seven per cent for the bulk water supply industry. The guidelines recommend that that this rate be applied to retail and distribution services in establishing the upper limit of prices to be charged by local

government providers and that it should be earned on assets financed by governments and those contributed by developers.

The Government Prices Oversight Commission's audit information suggests that of those activities that earned a positive return on assets — Kentish and Latrobe water services, and King Island wastewater businesses — earned returns above the recommended weighted average cost of capital. In the case of the later two the returns were around twice the recommended weighted average cost of capital.

Bulk water returns are forecast to range between two per cent and 4.5 per cent in 1999-2000. This compares to the 4.5 per cent near term target return and weighted average cost of capital of six per cent set by the recommendation in the draft report to the 2001 Government Prices Oversight Commission investigation.

Dividends

The March 2001 urban water pricing guidelines state that since local government service providers are not corporatised dividend payments are not applicable. Esk and North West Water paid dividends in 1999-2000 of $594 000 (or 49 per cent of before tax earnings) and $345 000 (or 33 per cent of before earnings) respectively.

Assets

The Government Prices Oversight Commission guidelines require information to be provided on the written down replacement value of assets. Asset consumption is to be reflected through an annuity when estimating the lower limit for cost recovery, and depreciation based on optimised replacement values when estimating the upper limit.

The 2001 Government Prices Oversight Commission audit shows that at least 16 local governments report their water and wastewater assets at the written down replacement or current valuation. The Council has not been provided with information on the degree to which asset values have been optimised.

The Government Prices Oversight Commission 1998 investigation into bulk water pricing policies recommended that optimised deprival methodology be used for asset valuation. The Commission has noted that both Esk and North West Water have applied the deprival approach and that a valuation of Hobart Water's assets based on this approach is due prior to 30 June 2001. (GPOC 2001).

Depreciation is the primary means of accounting for asset consumption among bulk water providers. However, the Government Prices Oversight Commission advocated that each Authority introduce a renewals annuity (GPOC 1999). As a first step towards this the Government Prices Oversight Commission recommended that by January 2001 each authority:

- forecast future demand for the next 15 to 30 years;
- undertake a formal risk assessment relating to both quality and reliability of supply; and
- prepare a comprehensive asset management plan.

The Government Prices Oversight Commission's 2001 draft report on bulk water prices notes that there has been 'reasonable progress' with implementing its recommendations regarding asset management but also that it had anticipated that these issues would have been further progressed than is currently the case. The Government Prices Oversight Commission also notes that condition assessments of critical infrastructure have been undertaken and that there is now sufficient asset knowledge for each authority to be confident of the ability to fund future works to maintain system capacity.

Discussion

The Council's second tranche NCP assessment noted that it would look for the State to complete the proposed pricing guidelines, and for all urban water and wastewater services to be recovering at least the lower limit of the CoAG pricing guidelines. Since that assessment Tasmania has been proactive in promoting a greater level of cost recovery among local governments. This is evidenced by the release of guidelines assisting full cost recovery, two-part tariffs, CSOs, and long term asset planning and renewal. The Council suggests that the Government Prices Oversight Commission audit process and the potential for non-complying businesses to be declared for formal prices oversight also provides a strong incentive for local governments to achieve full cost recovery.

The Council acknowledges Tasmanian advice that efforts to assist reform have initially focused on the largest service providers and on the performance of water rather than wastewater services. However, the Council is significantly concerned that a substantial number of the State's largest urban retail and distribution services are not operating on a commercially viable basis as defined by the CoAG guidelines. This includes Launceston water services, Hobart water and wastewater businesses, Glenorchy wastewater, and Clarence water services.

In regard to the largest in this group, Tasmania have advised that Launceston wastewater services are committed to reaching full cost recovery for water — and is setting rates to reduce the deficit. Tasmania also notes that Launceston has faced some major increases in bulk water costs and has to manage this while introducing two-part tariffs for 26 000 connections. The Council understands that Launceston expects to reach the lower band of the CoAG guidelines next financial year. Tasmania has also advised that improvements in Hobart's water and wastewater businesses will be pursued before the June 2002 assessment.

Tasmania notes that the combined returns for some water and wastewater services, such as Clarence, do recover the lower bound. The Council's view is that CoAG full cost recovery commitments require that water and wastewater businesses should recover costs independently so as to avoid non-transparent 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 as this has the potential to undermine the volumetric signal to use water economically.

The Council has also been advised that for 2000-01 and beyond Clarence is anticipating reaching the lower level of full cost recovery. Burnie, is also expected to be operating on a viable basis for 2000-01.

By contrast, the Council is concerned at the high returns earned by Latrobe water services, and King Island wastewater services which, as noted above, are around twice the recommended weighted average cost of capital. The Council notes that in both cases these figures were based on assets valued at historic cost. This may have been a factor in the high results particularly if there are a large proportion of old assets. However, another possible explanation is that customers of these services are paying higher prices than they otherwise would in a competitive market. The Council will revisit this issue in the 2002 NCP assessment.

While Tasmania's initial focus has been on cost recovery by the State's largest services, the Council will revisit progress by all service providers in 2002 when it has full information following the completion of the Government Prices Oversight Commission's audit. For that assessment, the Council will look for further information on progress with asset valuation including optimisation as recommended by the Government Prices Oversight Commission guidelines, and competitive neutrality costs.

In regard to bulk water supplies, these activities have recovered costs consistent within the CoAG guidelines and thus have met 2001 commitments. The Council supports progress by the bulk water providers to gain a clearer picture of medium to long term demand and the expenditure on assets needed to meet that demand. The Council also supports the identification of appropriate annuity payments to meet demand as this represents a forward-looking approach to asset management. As noted previously, the Council accepts that appropriate use of depreciation can lead to outcomes consistent with CoAG commitments. The Council will look for evidence of continued progress in this area in future assessments. Where the annuity approach is not introduced, the use of depreciation will need to be consistent with CoAG commitments.

Finally, the treatment of externalities in pricing is very much in its early stages in Tasmania for both bulk and retail and distribution services. The Council is of the view that the Government Prices Oversight Commission guidelines approach to externalities, based as it is on the costs attributed to service providers for addressing environmental damage, is consistent with reform commitments. However, no such costs are currently passed onto urban suppliers. The Council will revisit this issue in future NCP assessments.

Assessment

Retail and distribution

In this assessment, the Council has focused on the State's largest service providers as this is where the immediate gains from reform are likely to be the greatest. However, the Council is concerned that a significant proportion Tasmania's largest service providers (including the largest four) are not commercially viable as defined by the CoAG guidelines. Tasmania has advised that its arrangements should see a significant improvement in the performance of this group. Given the actions taken by the Tasmanian Government to progress reform generally, the Council does not recommend payment implications for this assessment. However, demonstration of further progress particularly among the major service providers, in particular, will be a significant issue for the Council's 2002 assessment.

While progress among large services will be the focus of the Council's next assessment of full cost recovery, the Council will also review progress across all service providers with respect to:

- asset valuation;
- consideration of providing for any externality costs; and
- provision for taxes or tax-equivalent regimes.

Bulk water

The Council is satisfied that Tasmania has met 2001 NCP commitments in relation to bulk water services.

Consumption-based pricing

Governments have endorsed the principle that prices should reflect the volume of water supplied so that prices encourage more efficient water use and to give customers more control over the size of their water bill. For urban water providers using surface or groundwater, two-part tariffs (comprising a fixed access component and a volumetric cost component) are to be introduced where cost effective (clauses 3a and b).

Tasmania arrangements

Retail and distribution water and wastewater charges

Tasmania has undertaken an assessment of the cost effectiveness of applying two-part tariffs to its urban retail and distribution water supply schemes.[1] As a result of this process an implementation timetable was developed. Table 1 outlines progress achieved and planned.

Table 1: Implementation dates for two-part pricing

Scheme	*Committed Implementation date*	*Actual/Planned Implementation date*
Cressy	2000-01	July 2000
Deloraine	2000-01	July 2000
Evandale	2000-01	July 2000
Longford/Perth	2000-01	July 2000
Kempton	2000-01	July 2001
Sorell	2000-01	July 2001
Bracknell	2001-02	July 2001
Exton	2001-02	July 2001
George Town	2001-02	July 2001
Hadspen	2001-02	July 2001
Hillwood	2001-02	July 2001
Launceston	2001-02	July 2001
Prospect Vale	2001-02	July 2001
Scottsdale	2001-02	July 2001
Westbury—Carrick	2001-02	July 2001
West Tamar	2001-02	July 2001
Wynard—Somerset	2001-02	July 2001
New Norfolk	2002-03	July 2002

Source: Tasmania (2001)

The Council has not received advice of any changes in the structure of wastewater charges by Tasmania local governments. The Council has not been advised as to whether any services levy trade waste charges.

Bulk water charges

Hobart Water currently applies a two-part tariff with fixed costs based on a three-year rolling average and a rising two-block tariff. Esk Water is

[1] This process is outlined in the Council's December 1999 supplementary assessment.

implementing a two-part tariff from July 2001 with the volumetric charge based on long run average cost. The fixed charge will be allocated based on the previous three-year consumption average. North West Water has also applied a two-part tariff. In addition to two-part tariffs the 1998 Government Prices Oversight Commission investigation into bulk water pricing policies recommended the adoption of nodal and seasonal pricing policies. However, the Government Prices Oversight Commission's 2000 draft report, notes that there has been very little progress with the implementation of either of these principles. The three Authorities are particularly reluctant to introduce nodal pricing.

Discussion

The Council is satisfied that Tasmania has continued to achieve progress with the implementation of two-part tariffs. It will look for further evidence of sound progress against the two-part tariff implementation timetable in the 2002 NCP assessment. Given that this reform commitment was initially due by the end of 1998, the Council would need a robust justification for any delays in implementation.

The Council has welcomed advice from Tasmania that, with the exception of the Derwent Valley, from 1 July 2001 there will be no free water allowances. The Council has previously expressed its view that free water allowances can reduce the incentives to use water efficiently and are not consistent with CoAG commitments on consumption based pricing and cross-subsidies and the overall objective of more efficient and sustainable water use.

In regard to wastewater services, the Council's second tranche NCP assessment noted concern at the use of property values and that progress on this matter would be reviewed in the 2001 NCP assessment. The Council's concerns stem from the potential for property values to result in non-transparent cross-subsidies. The second tranche assessment noted the use of minimum charges to limit the impact of property values on many wastewater bills. Tasmania has advised that given the small size of local government property values, these are unlikely to have significant efficiency impacts. The Council also notes advice that the State Government plans to write to local governments in regard to the potential for cross-subsidies between water and wastewater businesses. This may provide an opportunity to identify the circumstances where property values may lead to cross-subsidies and the requirement for transparent reporting.

The Council has not been advised as to whether any services levy trade waste charges. Tasmania's reform efforts have initially been focused on water services. However, the Council sees significant gains in a rigorous consideration of the introduction of trade waste charges where cost effective. The Council will pursue this issue further in the 2002 assessment.

Overall, the Council is satisfied that bulk water retail wastewater charges are consistent with CoAG commitments.

The Council is satisfied that bulk water providers have met the CoAG requirement for volumetric pricing. It also supports further consideration of both nodal and seasonal pricing as they have the potential to encourage more efficient use of scarce water resources. However, while certainly consistent with the CoAG Framework's broad aim of more efficient and sustainable water use, application of neither principle is an explicit requirement under CoAG commitments.

Assessment

The Council is satisfied that the Tasmania has meet 2001 NCP commitments in this area. The issue of trade waste charges and continued progress with implementation of two-part tariffs will be included among the issues considered in the Council's next assessment in 2002.

Community service obligations (CSOs)

Where service deliverers are required to provide water services to classes of customers at less than full cost this cost be fully disclosed and ideally be paid to the service deliverer as a CSO. Governments have agreed that the Council would not make its own assessment of the appropriateness of any individual CSOs but would review information provided by governments in totality to ensure that these CSOs do not undermine the objectives of the agreed water reform framework (clause 3a).

Tasmania arrangements

Retail and distribution

In November 2000 Tasmania released its Community Service Obligations Policy and Guidelines for Local Government in Tasmania (Department of Premier and Cabinet 2000). This policy was discussed in the Council's June 2000 supplementary assessment (NCC 2000). In summary, the policy provides advice on how local government services should appropriately identify, cost and fund CSOs. The aims of the policy are to:

- ensure that a Council's social and other objectives are achieved without impacting on the commercial performance of its significant business activities; and

- improve the transparency, equity and efficiency of CSO service delivery. (Department of Premier and Cabinet 2000, p.2).

Tasmania has advised that local governments have commenced reporting on their water and wastewater service CSOs to the Department of Premier and Cabinet, as required under the revised Government Prices Oversight Commission Guidelines issued to Councils in April 2001. However, almost all

have reported no CSOs to date. Tasmania note that this issue will be addressed as part of the Commission's audit.

Bulk water

The Government Prices Oversight Commission investigation recommended that all CSOs delivered by bulk water providers should be separately costed with these costs made transparent in the financial reporting of each authority (GPOC 1998). The Commission's 2001 draft report states that Hobart Water is doing this. Esk Water stated that it does not undertake any activities that it considers are true CSOs, and North West Water noted its support for the principle stating that it considers the requirement to fluoridate water is a CSO, and reports this amount in its financial statements.

Discussion and assessment

In regard to retail and distribution services, the Council's June 2000 second tranche supplementary assessment concluded that:

> *…if fully implemented, the Guidelines should lead to significant improvements in the transparency and provision of CSOs among local government water businesses in Tasmania. The Council is satisfied that second tranche commitments in regard to CSOs have now been met but will look for evidence of implementation consistent with section nine of the Guidelines when it undertakes its 2001 NCP assessment.* (NCC 2000, p.122)

Local governments are starting to identify and report against the CSO guidelines and the reporting process is ongoing. Bulk water service providers have also made progress in identifying CSOs.

The Council is satisfied that minimum 2001 NCP commitments have been met but will look for significant further progress with the actual transparent reporting of CSOs when it next assesses progress.

Cross-subsidies

Cross-subsidies should be transparently reported and ideally removed where they are not consistent with efficient service provision and use (clause 3a).

Tasmania arrangements

Initiatives such as the introduction of two-part tariffs and consequent elimination of free water allowances are reducing the potential for non-

transparent cross-subsidies in Tasmania. However, the explicit treatment of this issue among retail and distribution services is still in its early stages.

In regard to bulk water services, the 1998 Government Prices Oversight Commission investigation recommended that all bulk water cross-subsidies, which occur in the commercial operations of each authority, be made transparent in its financial reports. Hobart Water Authority states that there are no cross-subsidies in its commercial activities, including off-peak sales and other services (like testing and consultancy). Esk Water is strongly opposed to the use of nodal pricing stating that it does not account for the historical development of the region and does not lead to an equitable or accurate outcome. Further, it stated that '…the absence of a methodology to determine the true cost of water to groups of customers renders the exercise academic and of little use.' (GPOC 2001, p. 21)

North West Water's view is that there is little value in providing transparency in relation to cross-subsidies other than to Government Participating Councils and for its own interest. It also noted that, in its view, providing additional transparency to customers, given the various pricing structures of the participating local governments, 'unnecessarily complicates the issue'.

Discussion

Retail and distribution

The Council's second tranche assessment raised concerns that the provision of free water allowances and the use of property values raised the potential for significant non-transparent cross-subsidies.

Consequently, the Council welcomed advice from Tasmania that from July 2001 all free water allowances (with the exception of Derwent Valley) will be removed as a result of the continued implementation of two-part tariffs by urban water businesses.

In regard to property based charges, this issue has been discussed in the section on consumption based pricing. The absence of trade waste charges may also result in cross-subsidies between large and small dischargers. The Council will look for further progress on this as well as the issue of cross-subsidies more generally when it undertakes its next assessment.

Tasmania has developed guidelines including case studies, as well as information sessions to assist the understanding and implementation of other elements of the CoAG water reform package. The Council supports this approach. The issue of cross-subsidies could also be added to the matters considered by the annual the Government Prices Oversight Commission audits.

Bulk water

As noted in the Council's 2001 NCP assessment framework, the Council defines cross-subsidies to arise when prices charged are outside the band provided by incremental cost and standalone cost. This is to be distinguished from differential pricing where different prices are charged to different customer groups but these prices lay within the above band. Therefore the fact that different customers may pay different prices does not of itself mean that there is a cross-subsidy that must be reported. However, the Council notes that where a cross-subsidy does exist it should be made transparent.

Given the above, the Council is concerned at North West Water's view regarding making cross-subsidy information broadly available. The Council suggests that where a cross-subsidy exists, full transparency is important particularly when the owners of the Authority are also its customers and the prices paid by the various local governments for bulk water are reflected in the charges to final customers.

In its 1999 investigation, the Government Prices Oversight Commission noted that nodal pricing for bulk water services represented best practice. The draft report for the 2001 investigation recommends nodal pricing for volumetric charges and ideally for fixed charges. Nodal pricing would eliminate any cross-subsidies that result from averaging costs among the customer local governments. The Council therefore supports the Commission's recommendation that each Authority continue to collect information on nodal cost. As the Commission notes, once an Authority knows its nodal costs even if prices are not set on this basis, it can be used to identify any cross-subsidies and report them transparently consistent with CoAG commitments.

Assessment

The Council is satisfied that reforms undertaken by Tasmania to date have decreased the potential for non-transparent cross-subsidies and therefore, the Council is satisfied that in retail and distribution services in particular meet minimum 2001 NCP commitments. However, in the 2002 assessment the Council will look for substantial progress with identifying and transparently reporting cross-subsidies, particularly among retail and distribution services. The Council encourages further work on identifying a means for establishing nodal pricing among bulk water providers that is cost effective and sensitive to the potential impacts on customers and the broader community.

Pricing and cost recovery: rural

Governments have agreed that urban, non-metropolitan urban and rural water services should introduce full cost recovery and consumption based pricing and identify and report CSOs and cross-subsides (clauses 3a and d).

For the purposes of water pricing, the Council has defined the rural supply sector to include all water supply services other than those supplied to urban or non-metropolitan customers. A broad definition has been adopted to achieve a comprehensive application of pricing reform across the Australian water and wastewater industry. Under this definition, CoAG rural water pricing commitments apply to such activities as:

- services provided by government owned irrigation schemes and government owned bulk water supply services to users in non urban areas such as private irrigation schemes, power stations or processing and mining plants; and

- license fees set for commercial users extracting surface or ground water using their own infrastructure.

Less than 10 per cent of irrigation water used in Tasmania comes from publicly-owned water infrastructure. The vast majority of irrigation water comes from unregulated streams or on-farm dams.

The three Government irrigation schemes, the Cressy—Longford, South-East and the Winnaleah schemes, are managed by the Rivers and Water Supply Commission. Water pricing for the irrigation schemes is set through business plans for each scheme which are part of the Commission's corporate plan.

Full cost recovery

Governments have agreed to set prices so that water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but to avoid monopoly returns. To this end, governments agreed that prices should be set by a jurisdictional regulator (or its equivalent) to recover at:

- most the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital; and

- least, the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.

Asset values should be based on the deprival methodology unless an alternative approach can be justified and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment. Governments can still provide assistance to special needs groups through community service obligations but this should be done in a transparent way (clauses 3a and b).

Tasmanian arrangements

Commercial viability

For each of the irrigation schemes, the Government investment in infrastructure is counted as a sunk cost. The financial costs (interest and repayment of the loans taken out to establish each of the schemes) are not included in the revenue target and are provided as a transparent CSO that is clearly stated in the individual schemes' financial statements (see section on rural CSOs).

Cressy—Longford Irrigation Scheme

Over the last five years, water prices have risen in the Cressy—Longford Irrigation Scheme to achieve full recovery of operations, maintenance, administration and asset consumption costs. This has been achieved by establishing a revenue target and then setting water prices to meet this target based on the rolling five-year average of water sales.

To be viable, water businesses should meet at least the lower bound of the agreed pricing framework. For this scheme, it was thought that this had been achieved in 1997-98. However, a 1999 review of the price fixing model being used by the Rivers and Water Supply Commission identified that depreciation was not being appropriately accounted for. In setting 1999-2000 prices, an asset renewal levy for future investment was used to account for asset consumption.

Winnaleah Irrigation Scheme

As for the Cressy—Longford Scheme, water prices in the Winnaleah Irrigation Scheme have risen to fully recover operations, maintenance, administration and asset consumption costs. The lower bound of the agreed pricing guidelines was achieved in 1998-99, when the costing for asset consumption was changed from straight-line depreciation to an asset renewal levy.

South East Irrigation Scheme

Water prices in the South East Irrigation Scheme have risen over the past five years with the intention of achieving full recovery of operational, maintenance, administration and asset consumption costs by 2002. A severe drought, major mechanical problems with the pumping system and ongoing water quality issues led to modifications to the scheme's infrastructure in 2000-01 to increase overall water supply surety and water quality in Stage 2 of the scheme. Tasmania notes that this scheme supplies only around 3500˚megalitres to around 100 farmers. Winnaleah is of a similar size. The Cressy—Longford Scheme supplies around 7500 megalitres.

The modifications involve a change of the source of supply for stage two users from Craigbourne Dam to Hobart Water. Under this arrangement, stage two is supplied with fully treated water originating from water resources in the Derwent Valley via the Hobart Water urban supply line. The full capacity of Craigbourne Dam is now available for supply of stage one.

The modifications led to an immediate increase in water prices as the Rivers and Water Supply Commission is required to meet the full price of water supplied by Hobart Water. There was therefore a need to also vary the original price path to full cost recovery.

The price path now determined by the Rivers and Water Supply Commission for stage one involve an immediate increase of $14 per megalitre and an additional price increase of $1 per megalitre plus indexation for the next ten years. Full cost recovery under present arrangements is $90 per megalitre.

The price path for stage two also involves a large price increase in the 2000-01 season to $155 per megalitre (to meet the full cost of water supplied by Hobart Water), followed by annual straight line increases of $6 per megalitre (increased appropriately for consumer price index increases) to the target price of $245 over the next 10 years.[2]

On this basis, the scheme will not reach full-cost recovery until 2010-11. However, Tasmania has also advised that it expects the cost of scheme operation will reduce significantly in the next few years due to:

- reduced staffing costs;
- a significant reduction in maintenance costs as a result of the switch from pumping to gravity feed; and
- a significant reduction in asset consumption costs as the most expensive expendable short-term asset (the on-demand pumping system) will not be replaced.

Tasmania therefore expects that full cost recovery will be achieved much sooner than 2010-11 on the above price path.

Tax equivalents

As a government business enterprise, the Rivers and Water Supply Commission is required to include the payment of tax equivalents and a loan guarantee in the determination of its costs for operating its trading enterprises. The commission paid $19 088 in tax equivalents in 1999-2000.

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[2] The endpoint price for stage two is $215 (plus accumulated consumer price index increases) as the capital charge currently being included by the Hobart Regional Water Authority in the water price ($30 per megalitre) will be eliminated in 10 years time (repayment of 10 year loan for capital works).

Externalities

Externalities are not recovered in water supply charges in the irrigation districts or in licence fees for the use of unregulated water.

Assets

The Cressy—Longford Scheme has traditionally used a depreciation charge to account for asset consumption, as noted above. This has been recently replaced with an asset renewal levy. Similarly, in 1998-99, the costing for Winnaleah's asset consumption was changed from straight-line depreciation to an asset renewal levy.

For accounting, the infrastructure costs of the South East Irrigation Scheme are aggregated for both stage one and two, even though both have separate infrastructure assets. Stage one of the scheme is supplied with water released from the Craigbourne Dam. Irrigators use private infrastructure to extract water from the river. Stage two of the scheme receives water from Hobart Water, and has a network of transmission pipes for the distribution of the water.

The South East Irrigation Scheme uses a depreciation method to account for asset consumption. Costs for each of the stages are aggregated and shared between users.

Dividends

None of the government irrigation schemes return a dividend to Government.

Unregulated

The *Water Management Regulations 1999* (proclaimed on 1 January 2000) established a new raw water pricing system. The Council understands that the new arrangements are designed to reflect the direct costs attributable to licensees, including a standard administrative fee to cover licence issue and a variable management fee to cover bailiffing, compliance auditing, water quality monitoring etc.

Discussion

The Cressy—Longford and Winnaleah irrigation schemes are operating in a commercially viable way once CSOs are taken into account. However, there are significant problems with the South East Irrigation Scheme in terms of full-cost recovery.

At present, the South East Irrigation Scheme does not recover the full costs of the supply of water. The Council acknowledges the circumstances under

which the decision to switch stage two of the scheme to water supplied from Hobart Water (rather than the Craigbourne Dam) was made. Price paths have been set for both stages of the scheme and these paths have led to a significant price increase in the 2000-01 financial year to meet the costs of water supplied from Hobart Water. However, the paths for both stages extend for 10 years. Although, improvements in efficiency are expected to full cost price in stage one to around $60 per megalitre, which is significantly lower than the current rate. This should result in full-cost recovery being achieved as early as next year. Efficiencies in stage two are also likely to shorten the time taken to get to full cost recovery to around five years.

Unregulated

The second tranche NCP assessment noted that for the 2001 assessment, the Council would be focusing on pricing in regulated systems. Water licence fees for unregulated water have improved with the new arrangements established under the Water Management regulations, so that now charges more closely reflect services received.

Assessment

Two out of three of the State's irrigation schemes have reached the lower band. Consistent with CoAG commitments, a price path for the South East Irrigation Scheme has been provided, although it may not result in cost-recovery being achieved until 2010-11. On this, the Council notes the advice of Tasmania in that full-cost recovery is likely to be reached much sooner as a result of efficiency gains. As such, the Council will revisit this issue in future assessments to ensure progress towards full cost recovery.

The Council is satisfied that the pricing structure for the unregulated water extractions meets reform commitments for this assessment.

Consumption-based pricing

Governments have endorsed the principle that prices should reflect the volume of water supplied so that prices encourage more efficient water use and to give customers more control over the size of their water bill. For urban water providers using surface or groundwater, two-part tariffs (comprising a fixed access component and a volumetric cost component) are to be introduced where cost effective (clauses 3a and b).

Tasmanian arrangements

Cressy—Longford Irrigation Scheme

Water pricing for the Cressy—Longford Scheme is shown in table 2. Pricing for this scheme is based on a two-part tariff, with a fixed charge per megalitre of irrigation right (to cover the fixed costs) and a volumetric charge based on water actually used (to cover the variable costs).

Table 2: Water Supply Charges for the Cressy—Longford Irrigation Scheme 1996-97 to 2000-01

	1996-97	*1997-98*	*1998-99*	*1999-2000*	*2000-01*
Irrigation Rate (fixed charge per megalitre of right)	$18.15	$18.70	$18.70	$21.82	$21.82
Irrigation Charge (variable charge based on water used)	$15.60	$15.70	$15.30	$15.90	$15.90

Source: Tasmania (2001)

It is expected that the prices for 2001-02 will be set by the Cressy—Longford Irrigators Association in accordance with an agreed business plan following devolution of management of the scheme from 1 July 2001.

Winnaleah Irrigation Scheme

The water pricing regime for this scheme is shown in Table 3. Charges are based on a modified two-part tariff, consisting of a fixed charge per megalitre of water right and a volumetric charge per megalitre of water actually used. The volumetric charge varies over the irrigation season based on demand and availability.

The current pricing system was suggested by scheme users and adopted by the Rivers and Water Supply Commission in 1999-2000. It aims to encourage greater water use in the off-peak season and to discourage use (or at least fully account for marginal costs) at the peak of the season.

Table 3: Water Supply Charges for the Winnaleah Irrigation Scheme 1997-98 to 2001-02

	1997-98	*1998-99*	*1999-2000*	*2000-01*	*2001-02*
Irrigation Rate (fixed charge per megalitre of right)	$53.50	$55.50	$44.00	$47.00	$48.00 [b]
Irrigation Charge (variable charge based on water used)	$0	$0	$9.00[a]	$8.50 [a]	$9.00 [b]

[a] Irrigation charge varies from zero in off-peak seasons, through 50 per cent of the above prices in shoulder seasons, to full price in peak season.

[b] Estimated

Source: Tasmania (2001)

South East Irrigation Scheme:

Water pricing in this scheme is shown in table 4. Pricing is based on a fixed charge based on the volume of water right held. The scheme does not provide for a consumption-based charge that reflects the volume of water actually used.

Table 4: Water Supply Charges for the South East Irrigation Scheme 1997-98 to 2001-02

	1997-98	*1998-99*	*1999-00*	*2000-01*	*2001-02*
Stage 1 – Irrigation Right (per megalitre)	$52.50	$59.00	$66.00	$80.00	$81.00[a]
Stage 2 – Irrigation Right (per megalitre)	$52.50	$59.00	$66.00	$155.00	$161.00[a]
Stage 2 – Pumping charge (per megalitre used)	$62.23	$60.16	$59.60	$0.00	$0.00

[a] Plus consumer price index adjustment.

Source: Tasmania (2001)

Unregulated

With the introduction of the Act, Tasmania has confirmed its commitment to introduce a new user-pays pricing policy for unregulated water resources. This pricing system for water taken from unregulated streams, lakes and groundwater provides for:

- clear separation of public and private costs incurred in water management;
- the setting of licence fees to reflect the direct costs attributable to licensees (a standard 'administrative fee' to cover licence issue and a

variable 'management fee' to cover bailiffing, compliance auditing, water quality monitoring and other costs);

- the creation of eight different pricing regions to reflect the variations in the cost of servicing users in different catchments of the State;
- a broader base for revenue collection to ensure that all beneficiaries contribute equitably to the costs of the services provided;
- a different pricing structure for different types of licences, for example, water taken into storage during winter compared to water taken directly from rivers during summer; and
- opportunities for licensees to reduce their costs by changing the level of service received from the Government.

Through the *Water Management Regulations 1999*, the Act provides that water licence fees can vary according to the:

- quantity of water taken;
- source of water;
- use to which the water will be put;
- when the water is taken;
- degree of certainty of the water supply being available; and
- method by which the water is taken.

This provides for a flexible pricing system for dealing with the wide variety of types of water sources throughout the State and would allow all water extraction, including the Hydro Tasmania's licensed take of around 25 million megalitres, to be licensed.

The regulations came into effect in January 2000.

Discussion

The two-part tariff arrangements that have been put in place in the Cressy—Longford and the Winnaleah irrigation schemes provide for consumption based pricing and meet the reform commitment. In particular, the Council commends the structure adopted in the Winnaleah irrigation scheme, where water prices are based on the season and the volume consumed. However, the Council's view is that it may not be appropriate for the volumetric component of the price to be zero in the off-peak season unless the marginal cost of water use is very low. This would eliminate the risk of cross-subsidies between peak and off-peak water users.

In contrast, water charges in the South East Irrigation Scheme are based solely on the volume of water right held by the user, not on the volume of water used. The Council understands that this is a reflection of the cost structure within this scheme, where there are few variable costs. Water is gravity fed, with bulk water charges negotiated with the Hobart Regional Water Authority set on a take or pay basis.

The Council also notes that using the allocation held by the user to determine the user's share of fixed costs is likely to result in charges that broadly reflect the share of benefits received.

In terms of unregulated water, the Water Management Regulations 1999 provide for consumption-based pricing by setting charges based on, among other things, the quantity of water taken. The Council commends the establishment of these arrangements in unregulated water resources. Cost reflective arrangements mean that users only pay for what they receive and have a greater capacity to manage costs. It also reduces the potential for cross-subsidies.

Assessment

The Council is satisfied that the consumption based pricing arrangements for both regulated and unregulated water resources in Tasmania meet the requirements of the 2001 NCP assessment.

Community service obligations

Where service deliverers are required to provide water services to classes of customers at less than full cost this cost be fully disclosed and ideally be paid to the service deliverer as a CSO. Governments have agreed that the Council would not make its own assessment of the appropriateness of any individual CSOs but would review information provided by governments in totality to ensure that these CSOs do not undermine the objectives of the agreed water reform framework (Clause 3a).

Tasmanian arrangements

Each of the three government irrigation schemes receives a CSO from the Government to cover the costs of repayments and interest on the loans for the construction of the schemes. These subsidies appear as separate, fully transparent items in the annual financial statements for each scheme (see Table 5). These statements are tabled in the Tasmanian Parliament and are public documents.

Table 5: Government subsidies for the irrigation schemes for 1999 and 2000

Scheme	*2000 Subsidy*	*1999 Subsidy*
Cressy—Longford	$123 000	$100 000
Winnaleah	$642 384	$642 384
South-east	$2 039 290	$1 889 290

Source: Tasmania (2001)

Assessment

The Council is satisfied that these subsidies are paid transparently and do not undermine the objectives of the reform framework.

Cross-subsidies

Cross-subsidies should be transparently reported and ideally removed where they are not consistent with efficient service provision and use (clause 3a).

Tasmanian arrangements

Regulated water

The Cressy—Longford Irrigation Scheme has adopted a cost-reflective volumetric pricing tariff, which reduces the potential for cross-subsidies among water users. In addition, the Tasmanian 2001 NCP annual report noted that a staged removal of a cross-subsidy had been implemented for a group of users reliant upon a pumping system for their water supplies. Previously, the costs of the pump operation were distributed among all water users.

Cost reflective, volumetric pricing arrangements have also been adopted within the Winnaleah Scheme. Prices for water service vary according to the season, with a zero off-peak irrigation charge. As noted in the discussion on consumption based pricing, these arrangements could benefit from the off-peak rate reflecting the marginal cost of water supply. However, with this exception, the arrangements in place significantly reduce the potential for cross-subsidies.

Cross-subsidies generally exist where incremental costs are not recovered. The South East Irrigation Scheme has very low variable costs and cross-subsidies are unlikely. The potential to trade water rights means those water users who may be paying higher prices relative to the amount of water they actually use can reduce their bill. The South East Irrigation Scheme has not adopted volumetric pricing arrangements for water supply. It has, however,

adopted a price path that will result in full-cost recovery of water services for each of the two stages.

As noted above, the Council strongly supports the adoption of a two-part tariff that reflects the level of service received. A two-part pricing tariff will also limit the potential for cross-subsidies.

Unregulated

The establishment of cost-reflective pricing based on the volume of water used is a significant step toward the reduction of cross-subsidies in unregulated water. Water users under these arrangements should only pay for the level of service received, which should decrease the potential for cross-subsidies.

Discussion and assessment

Both the Cressy—Longford and the Winnaleah irrigation schemes have adopted volumetric pricing arrangements that are cost reflective. This is an essential first step in removing cross-subsidies and is sufficient to meet 2001 commitments.

The South East Irrigation Scheme has adopted a price path which will result in full-cost recovery. While charges are not based on the actual amount consumed, the existing arrangements have a relatively low risk of non-transparent cross-subsidies.

Unregulated water sources are charged volumetrically and minimise the risk of cross-subsidies.

The Council is satisfied that Tasmania has met reform commitments in regard to cross-subsidies.

New rural schemes

Governments have agreed that all investments in new rural water schemes or extensions to existing schemes should only be undertaken after appraisal indicates that it is economically viable and ecologically sustainable (clause 3d(iii)).

Over recent months, Tasmania has been working on the finalisation of its water development plan. This plan is expected to be released in late 2001. In the 2001 Tasmanian budget, $10 million was set aside to fund the implementation of this plan.

The plan is expected to lead to the construction of several new major water storages around the State. The first of these storages is expected to be the Meander (Warner's Creek) Dam. Other projects, including the feasibility of

broadening the South East Irrigation Scheme with additional water supplies from the Clyde and Jordan Valleys, are also being investigated (Llewellyn 2001).

Tasmanian arrangements

Economic viability

The Council notes advice from Tasmania indicating that the proposals of State significance mechanism has not measurably changed since the second tranche NCP assessment, where it was found to meet reform commitments. The Council finds no reason to change its views on the suitability of this mechanism.

Ecological sustainability

The availability of water resources for new investments is constrained by the moratorium on the issue of new entitlements by the Rivers and Water Supply Commission in 1995 (see section on water allocations).

The Water Management Act provides for a formal dam permit assessment and approval process by the Assessment Committee for Dam Construction, a statutory committee established by the Minister for Primary Industries, Water and Environment. The Act also specifically excludes all dams from the State planning system. The committee assesses the environmental, engineering and safety aspects of dam construction, but does not assess or approve the water licence and water allocation needed to fill or be taken into the dam. The committee may refuse to grant a permit where the proposed dam works are: inconsistent with the Act or a relevant water management plan; may result in environmental harm; or may adversely affect water right holders. Dam applications must be advertised and the public can make representations for at least 14 days following advertising. If representations are received, those persons have the right to appeal to the Resource Management and Planning Appeals Tribunal following a decision being determined on the dam permit.

The Act requires the committee to notify the Director of Environmental Management of an application within six weeks of receipt of the application to determine whether it should be referred for a more thorough environmental assessment under the Environmental Management and Pollution Control Act. The end-point of such an assessment is for the Board to request the Director to issue an environment protection notice. A permit from the Committee will also be required. Each of these decisions could be subject to appeals.

Approvals by the committee for dam construction (dam approval), the Environmental Management and Pollution Control Board (environment) and the Department of Primary Industries, Water and Environment (water

licence) could be managed as separate processes but this would cause additional problems for both the proponent and the assessment process, especially for very large dams. As a result, a 'one stop shop system' has been devised for all applications for dams over 3000 megalitres to bring all the necessary approvals together into one integrated process. This will assist the coordination between Acts and streamline the process for the proponent. The Environmental Management and Pollution Control Board and the committee for dam construction recently endorsed the 'one stop shop' process.

The construction of large dams may trigger the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*. The Commonwealth has accredited the assessment process under the Tasmanian Environmental Management and Pollution Control Act so that if a proposal does trigger the Commonwealth Act, then it can be assessed through the 'one stop shop process'. However, the Commonwealth Minister must still approve the proposal and may set conditions via a Commonwealth approval.

The Council notes the availability of a number of Tasmanian guidelines in this area. These include guidelines for preparing a dam project description, and draft guidelines for a development plan and environment management plan.

Proposed developments

Tasmania is preparing the Water Development Plan for Tasmania. A background paper for this plan, the 'Irrigation Schemes Project Initial Report' (DPIWE 2001c) recommended that a number of proposals progress to the next stage of assessment to be conducted in April 2001. These proposals include the:

- construction of the Meander Dam;
- expansion of the South East Irrigation area, including the lower Jordan;
- development of infrastructure (primarily channels) for irrigation in the Great Lake region;
- construction of the Circular Head Dam;
- development of the Waterhouse Irrigation Scheme;
- construction of the Long Marsh Dam;
- storages on St Paul's Rivulet and/or Hop Pole Creek in south Esk;
- further development of water infrastructure for the East Coast; and
- Wesley Vale Pipeline.

Discussion and assessment

The Council is aware that the *Water Development Plan for Tasmania* is scheduled to be completed this year, and will highlight areas where water resources can be sustainably developed. None of the projects identified in the plan have yet been given approval to proceed.

The Council finds that the mechanisms for economic and ecological appraisal of new developments meet CoAG requirements.

As this commitment is only applicable to new developments where the Government has committed to development and/or funding, there are no projects to be assessed in Tasmania as a part of this assessment. Any approval of projects by the Tasmanian government in accordance with the Water Development Plan for Tasmania would be the subject of future Council assessments. Such future assessments would determine whether appraisal processes show the investments are economically viable and ecologically sustainable.

Institutional reform

Structural separation

As far as possible, the roles of water resource management, standards setting and regulatory enforcement and service provision should be separated institutionally by 1998 (clauses 6c and d).

Tasmanian arrangements

Under the *Water Management Act 1999*, Tasmania substantially changed the institutional arrangements in its water services sector. Responsibility for management of all of the State's freshwater resources is vested in the Minister for Primary Industries, Water and Environment. The department implements the provisions in the Act and issues water licences.

The Government Prices Oversight Commission monitors prices for all urban water service providers. It is the price regulator for the three urban bulk water providers. For retail services provided by local government the Commission released guidelines that cover issues such as full cost recovery, two-part tariffs, CSOs and long term asset planning and renewal. The Commission is in the process of auditing the operational plans of local government water businesses to ensure that they comply with its Guidelines.

Service provision

In Tasmania, the State Government has only a small role in service provision. Urban and bulk water service provision is largely a local government responsibility. The State's three metropolitan bulk water providers, the Hobart Regional Water Authority, the North West Region Water Authority and the Esk Water Authority, supply bulk water for 18 of the State's 29 local governments. The remaining local governments take, treat and reticulate water themselves. The exceptions are the Tasman Council that does not provide urban water services and the Glamorgan–Spring Bay Council that operates the Prosser Water Supply Scheme under contract to the Rivers and Water Supply Commission.

The Rivers and Waters Supply Commission and the Hydro-Electric Corporation provide some rural water services but most of the diversions are by private individuals. The Rivers and Water Supply Commission owns three irrigation districts. Tasmania is currently discussing the options for transferring these districts to local ownership.

Discussion

In its assessment of structural reform the Council focussed on whether the arrangements in each State and Territory are accountable, transparent and deal effectively with conflicts of interest.

The Council considered three broad areas of regulation when looking at institutional arrangements:

- economic regulation and service standards;
- resource management, water allocation and environmental regulation; and
- health regulation.

In its supplementary second tranche NCP assessment the Council concluded that the measures contained in the *Water Management Act 1999* were sufficient to meet Tasmania's second tranche NCP commitments. The Council also flagged that it would look at the implementation of the Act in its 2001 NCP assessment. For this assessment, the Council was looking for further information on the:

- nature of Ministerial arrangements given that the Minister for Primary Industries, Water and the Environment is shareholding Minister for the Rivers and Water Supply Commission (the service provider) and the regulator;
- nature of institutional arrangements for local government service providers. In particular, the Council will examine the arrangements for

regulation of service standards for local government providers such as drinking water quality and health, arrangements for customer complaints mechanisms, and any relevant enforcement matters. Where the local government sets both standards for service and owns and runs the service provider, the Council will look to, at a very minimum, rigorous ring-fencing of functions and clear transparency in decision making;

- nature of institutional arrangements for other service providers (such as the Rivers and Water Supply Commission and the bulk water service providers) including arrangements for the regulation of service provision and enforcement of those standards; and

- ongoing progress of institutional arrangements for pricing outlined in the second tranche assessment.

The Council noted that its assessment of progress would focus on mechanisms or arrangements to ensure that potential and actual conflicts of interest are addressed.

Economic regulation and standards setting

Prices regulation

For local government retail businesses the operational plans required under the *Local Government Act 1993* provide a sound mechanism for setting the financial requirements. The Act requires public consultation, annual auditing by the Government Prices Oversight Commission to determine whether the water businesses comply with the Commission's guidelines and reporting the outcomes of the plans in the local government's annual report.

The remaining area for the Council's assessment is the transparency of this process and whether the information will be publicly available in a form that allows comparison 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. This would need to address the issues of CSOs and cross-subsidies as well as pricing.

In the meantime, improved transparency will be provided by the key performance indicator report that has been developed as a joint project between the Local Government Association of Tasmania, Local Government Managers Australia and the Local Government Division of the Tasmanian Department of Premier and Cabinet. The first report, covering the financial year ending 30 June 2000, will be released in July 2001.

The data will provide information on infrastructure and utilities, including the key results areas of water, sewerage and drainage. They will provide information relevant to both short-term service delivery and long-term planning, published in a publicly available annual report. The project is

ongoing and will allow best practice service delivery to be monitored over time.

While the Council sees this as a positive initiative it does not have any detail on the indicators that will be included in this report. Consequently it cannot assess whether this initiative will fully meet Tasmania's commitment to transparency in reporting.

The Rivers and Water Supply Commission sets prices under the *Irrigation Clauses Act 1973*, in accordance with the requirements of the Government Business Enterprises Act. Irrigators are consulted through the local water management committees. Tasmania continues to note that if the need arises, the Treasurer can direct the Government Prices Oversight Commission to investigate the pricing policies of the Rivers and Water Supply Commission. The commission could also be declared for monopoly prices oversight.

Customer service standards

Currently local governments set their service standards using internal processes. The resolution of complaints about water and wastewater delivery, including service standards is the responsibility of the respective local government. Complaints are first raised with the local government directly. If a complaint about the administrative actions of the local government is not resolved it can be taken to the Office of the Ombudsman. In 1999-2000 the Ombudsman dealt with one complaint on local government water delivery, involving the need to boil water in a rural municipality.

Tasmania has commenced a process to improve transparency of the customer service standards for local government water businesses. Over the next six months the State Government will work with local governments to develop service charters and complaints handling process.

The Rivers and Water Supply Commission's 1999-2000 annual report noted that it was considering developing service delivery indicators in consultation with customers. However, this work has not progressed because to the negotiations on moving irrigation schemes to local management. If local management is adopted then these delivery indicators will not be relevant.

Resource management, water allocation and environmental regulation

The Minister for Primary Industries, Water and the Environment is responsible for resource management, and water allocations. Currently the same minister is also 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 have an impact on 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 that ensure potential and actual conflicts of interest are minimised.

As discussed later in the section on water allocations and property rights Tasmania has a detailed process of water planning that is expected to provide for public input and transparency. However, it is difficult to be confident of the outcomes of this process because water management planning is in its early stages. The Council also considers that the Rivers and Water Supply Commission's licence conditions and the monitoring of compliance with that licence can assist in improving the transparency of regulation.

Health regulation

Local governments, including those responsible for the bulk water providers, are responsible for ensuring that water supplies comply with the monitoring requirements specified in Tasmania's Water Quality Guidelines. They must notify the Director of Public Health of any potential threat to public health. Local Government Environmental Health Officers are empowered to investigate incident and manage the subsequent threat to public health.

If there is a threat to public health the local government must take action. The Director of Public Health can make orders that range from closing the supply to restricting use or placing restrictions on how water is used. Failing to comply with these orders carries a fine.

Under the water quality guidelines, all water suppliers must submit a report on their previous financial year health performance to the Director of Public Health. This report must include details of all water quality sampling conducted in relation to the water supply system and the overall management of the water supply system. That report is available on the internet.

Tasmania's water quality guidelines are based on the 1996 Australian Drinking Water Guidelines. Although, some small rural water authorities do not meet these guidelines and are required to advise users to boil water.

Assessment

As noted in the second tranche assessment the urban bulk water service providers are subject to price regulation by the Government Prices Oversight Commission. Therefore, there is full separation in price regulation.

For local government retail service providers the Council recognises 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.

Tasmania is improving transparency and accountability through a number of mechanisms such as:

- the involvement of the Government Prices Oversight Commission, as an independent regulatory, in monitoring and reporting;
- the local government Key Performance Indicator project;
- a commitment to taking a proposal to the Premier, within 12 months, on mechanisms to improve the transparency of reporting on local government performance; and
- the intention to develop service charter and complaints handling mechanisms with local government water providers.

The Council will reassess progress against these initiatives in 2002.

For rural services, the Rivers and Water Supply Commission is currently negotiating the move of its three irrigation districts to local management. This will significantly affect its business and the type of customer service standards and pricing arrangements that are applicable. Therefore, while the Council still has concerns about the level of separation and transparency in the current arrangements it will reconsider these issues in its 2002 NCP assessment when the scope of the Rivers and Water Supply Commission will be clearer.

In particular, the Council will 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.

Performance monitoring and best practice

ARMCANZ is to develop further comparisons of interagency performance with service providers seeking best practice (clause 6e).

Tasmanian arrangements

The Hobart Regional Water Authority participated in the Water Services Association of Australia, *WSAA Facts*, metropolitan benchmarking. The other two bulk water authorities, North West Region Water and Esk Water, participated in non-metropolitan benchmarking in 1999-2000. All three of the irrigation districts operated by the Rivers and Water Supply Commission have been involved in the Australian National Committee on Irrigation and Drainage rural benchmarking since its first report for 1997-98

Assessment

Tasmania is continuing to demonstrate commitment to the national benchmarking processes. Therefore, the Council has concluded that these reform commitments have been met.

Commercial focus

Metropolitan service providers must have a commercial focus, whether achieved by contracting out, corporatisation, privatisation etcetera, to maximise efficiency of service delivery (clause 6f).

Tasmanian arrangements

In the second tranche NCP assessment the Council concluded that it was satisfied that water providers had an appropriate commercial focus. Although, it also noted that not all local government water businesses had applied competitive neutrality measures and that progress would be reviewed again in the 2001 NCP assessment.

Discussion and assessment

Since the second tranche assessment Tasmania has been working with the Government Prices Oversight Commission to implement measures that will improve the commercial focus of local government water businesses. The Commission guidance on full cost recovery notes that the application of full cost attributions should be consistent with competitive neutrality principles. However, the evidence emerging from auditing the application of these guidelines is that, while a significant number of local government water services do include competitive neutrality adjustments, there are still many that do not.

The Council has recognised the progress Tasmania has made so far, and that the annual the Government Prices Oversight Commission audits of the consistency of local government operational plans with the Commission's guidelines will maintain the pressure for continued improvement. Therefore, the Council concludes that Tasmania made sufficient progress to meet the 2001 NCP assessment. The Council will look for significant progress again in its 2002 NCP assessment.

Devolution of irrigation scheme management

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 6g).

Tasmania's 2001 NCP annual report outlines the progress that has been made in negotiating to increase the levels of local involvement in irrigation management.

The Rivers and Water Supply Commission established a water management committee for each of its three irrigation schemes. The committees have a majority membership of elected irrigator representatives. While the committees are only advisory the Rivers and Water Supply Commission seeks their advice on all significant matters affecting scheme operations.

In 1998, the Rivers and Water Supply Commission appointed Stanton Associates/GHD Joint Venture to investigate alternative management options for the schemes, including commercialisation, individual corporatisation and privatisation. The consultants finalised their reports on the Cressy—Longford and Winnaleah Schemes in 1999 and for the South East Irrigation Scheme in early 2000. Scheme users were actively involved in establishing the guidelines for the investigation and in directing the consultancy work as it progressed.

The reports indicate that commercialisation or privatisation of the irrigation schemes is economically feasible, with some cost savings in scheme operation possible.

In October 2000 the Rivers and Water Supply Commission reached agreement in principle for the Cressy—Longford Irrigators Association to take over the management of their local scheme from July 2001.The proposal is for the Rivers and Water Supply Commission to retain ownership of the fixed assets while the Cressy—Longford Irrigators Association (as an incorporated company) takes over responsibility for the water entity under the *Water Management Act 1999*. Under this arrangement, Cressy—Longford would have responsibility for day-to-day scheme operations, administration and management, including price setting, staff management and own the non-fixed assets.

The Rivers and Water Supply Commission has provided funding for Cressy—Longford Irrigators Association to obtain independent financial, business and legal advice to progress the proposal. This is on the basis that the financial modelling and management mechanism is readily transferable to the other two irrigation schemes.

Irrigators in the other two schemes have expressed interest in following a similar path to Cressy—Longford Irrigators Association. However, they wish

to observe the outcome of the current negotiations before deciding to work towards self-management.

Discussion and assessment

In its supplementary second tranche NCP assessment in December 1999 the Council concluded that while significant progress had been made by Tasmania to facilitate greater participation in irrigation management it would look for evidence of continued progress in the 2001 NCP assessment, including evidence that:

- the full spectrum of reform options had been explored;
- a decision had been made for all three schemes on whether devolution is to occur and if so how; and
- an appropriate regulatory framework had been put in place for further devolution to occur.

While Tasmania has again shown commitment to working through the issues for devolution and has made significant progress in considering these issues all the benchmarks identified by the Council are still being worked through.

The review of options for local management has considered a range of alternatives with local irrigators involved in defining and considering those alternatives. A decision has been made on local management for the Cressy—Longford Irrigation Scheme, but not the other two schemes, and the institutional arrangements are still being finalised. One of the key reasons why decisions have not been made for the Winnaleah and South East Irrigation Schemes is that irrigators have chosen to wait until research and information is available from the Cressy—Longford process to assist them in their decision-making.

The Council has found that Tasmania is working through the processes to satisfy the commitment for a greater degree of responsibility in the management or irrigation areas including moves toward formal devolution of the Winnaleah and South East Irrigation schemes. The Council understands that all legal impediments to devolution have been removed and the decision now rests with the irrigators themselves. Tasmania has complied with institutional reform commitments for this assessment, and the Council will monitor developments in the 2002 NCP assessment.

Allocation

Water allocations and property rights

There must be comprehensive systems of water entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality. Governments must have determined and specified property rights, including the review of dormant rights (clause 4a).

Tasmanian arrangements

Water property rights

The Council considered the property rights system for Tasmania against second tranche commitments as part of the June 1999 supplementary assessment. A brief summary of the features of the system are provided in Table 6.

Table 6: Tasmanian water property rights

Key Item	*Tasmania*
Entitlements/Rights	
Nature of water entitlement	Riparian and casual land users may take water without a licence for human consumption, domestic purposes, stock watering and fire fighting. Electricity generation for private use is also permitted. Occupiers of land may take surface water and groundwater from the land for any purpose subject to reasonable requirements. Entitlements are subject to use not leading to material environmental harm and must be consistent with water management plans. The maximum amount of surface and ground water taken for riparian use may be prescribed. A licence may be required for riparian use if a water management plan specifies this is required. All water uses other than those outlined above are required to be licensed.

Key Item	*Tasmania*
Entitlements/Rights	
Nature of water right	Licences are issued for 10 years with a five-year review of conditions. A water allocation of a licence ceases on expiry of the licence, but there is presumption of renewal. Special licences are set for a period of 99 years, renewable on application within 10 years of expiry. They have a surety of allocation exceeded only by rights to take water for stock and domestic purposes and the aquatic needs of the environment. All licences are volumetric (megalitre, and where, appropriate megalitre per day). Reliability is specified in water management plans. Licences are separate from land title, transferable, divisible and enforceable. Water management plans are of an indefinite duration. The *Water Management Act 1999* requires water management plans to be reviewed in its entirety at least once every five years. Amendments can be made, where necessary, to give effect to State policy and to ensure the objectives of the Act are achieved. Overland flows can be included in water management plans and regulated under the Act as necessary. Compensation is payable where it is necessary to reduce prior rights where total allocations exceed the quantity of water determined by a water management plans or there is inconsistency with the objectives of the Act. Prior right holders are entitled to compensation in accordance with *the Commercial Arbitration Act 1986* and considering any benefit derived by the holder arising from reduction. The terms and conditions of licences and water management plan are reviewable by the Minister. Appeals are made to the Resource Management and Planning Appeals Tribunal.

[1] Unless the holder consents to the reduction, or the reduction is necessary to ensure the total quantity of water permitted to be taken from a system does not exceed the basic water needed for ecosystem health.

Water licences

Under the *Water Management Act 1999*, all persons wishing to take water from a watercourse, lake, well or surface water beyond basic stock and domestic usage requires a licence. A licence authorises the holder to take water subject to any relevant water management plan or conditions specified in the licence.

A water licence describes a property right to water in Tasmania. The licence must specify as follows:

- name of the water resource;
- purpose for which water may be taken, for example., irrigation, industrial;
- surety with which the water allocation can be expected to be available in any year having regard to the natural variability of water supply. Surety would be specified as a class or classes of allocations;
- size of the allocation or quantity of water to be taken;
- date on which the licence expires;

- period of time when water may be taken – typically December to April for direct takes from streams and May to November for takes into storages;
- whether a statutory water management plan applies to the licence; and
- any special conditions applicable to the licence.

Under the Act, a water licence and allocation is separate to land title and is the personal property of the licence holder for a period of 10 years.

An applicant must apply for a licence to the Minister, who must approve the application unless it does not comply with a water management plan, has a significant adverse impact on other licensees taking water, would create a risk to public or animal health, or would contravene the *Environmental Management and Pollution Control Act 1994*.

Licences may specify periods after which the Minister may vary the conditions of licences or reduce allocations to meet environmental conditions where necessary. The Minister may specify that a water allocation of a licence may be taken from or used on a specified area of land or for a specified purpose only.

Special licences

Special licences are granted to corporate bodies intending to use water to generate at least 400 gigawatt hours of electricity annually or to a body approved by an advisory committee made up of relevant ministers.

A special licence may also be granted for a specific purpose on application in writing where the Advisory Committee is satisfied that it would be consistent with the objectives of the Act and the licence is subject to such conditions as the Committee may determine.[3]

To date, special licences have been issued for Hydro Tasmania and for the Wesley Vale Pulp and Paper mill.[4]

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[3] The Advisory Committee comprises the Treasurer and the Ministers responsible for: water; the Treasurer; the Electricity Supply Industry Act 1995; the environment; the *Hydro-Electric Corporation Act 1995*; the *Inland Fisheries Act 1995*; and the *Tasmanian Development Act 1983*.

[4] Wesley Vale has its own legislation which guarantees it a water right at high security. Under the *Water Management Act 1999*, the relative surety of existing rights should be retained wherever possible. It was felt that this level of security warranted a special licence under the Act. The Department of Primary Industry, Water and the Environment is still to commence negotiation of an agreement with the company on the conditions of the special licence. These will be broadly based on the previous conditions granted to the mill subject to these meeting the requirements of the new Act and any additional requirements necessary to ensure environmental flows.

Conversion of commissional water rights

Commissional water rights (set under the previous legislation) are being converted to licences and allocations under the *Water Management Act 1999*. A report by the Department of Primary Industries, Water and Environment on water availability (2001) indicates that over one third of commissional water rights have been converted to water. These rights were attached to land and were not transferable separate to the land. Commissional water rights have a duration of two years.

The changeover arrangements provide that pre-existing legal entitlements to water will be preserved where sustainable. Where entitlements are not sustainable, the Act allows the Minister to vary the conditions or reduce the allocation of a licence, or impose restrictions on the taking of water as necessary to meet environmental requirements.

Irrigation Rights

Water property rights to supply water for irrigation schemes are granted under section 23 of the *Irrigation Clauses Act 1973* as amended.

Under this Act, the Minister must grant a certain quantity of water as an irrigation right to the occupiers of land in water districts for irrigation purposes. Irrigation rights may be granted by any method approved by the Minister, and with different sureties. The grant of an irrigation right is subject to any by-laws.

Irrigation rights may only be granted to owners or occupiers of land in water districts or where the Minister is convinced a person may be entitled to acquire land in a district. Any irrigation right does not take effect until the holder acquires land.

Tasmania's Department of Treasury and Finance 2001 budget papers indicate the volume of new irrigation water rights allocated was 19 183 megalitres in 1999-2000 and is expected to be 20 000 megalitres in 2000-01.

Register

The Department of Primary Industries, Water and Environment has an extensive database known as the Water Information Management System, which is the register of water licences and permits issued under the Act.

Details of third party interests in water allocated to licence holders must be kept on Water Information Management System. Before water is transferred, a search of the system is undertaken to identify any interests. Where identified, the consent of the third party is required before a transfer can take place.

A licensee must notify and provide details to the Minister within 10 days of becoming aware of any financial interest of another person in the licence or water allocation. The Minister will then make a notification of the third party interest on the Water Information Management System.

To make information on water licences readily available including whether there are third party interests, The Department of Primary Industries, Water and Environment is developing a web based information package. This package is almost complete and will enable the public to readily obtain property rights information in relation to water. All water transfer details are recorded on the Water Information Management System.

Water allocations

In 1995, the Rivers and Water Supply Commission imposed a moratorium on the issue of new permanent water allocations. The moratorium principally applies to applications for the direct taking of water during summer. The moratorium has been lifted on particular water resources only when appropriate environmental flow regimes have been established. Only three rivers have been investigated sufficiently for allocation procedures to be established. These are the Derwent, Huon and Leven rivers. The capping of water allocations and the introduction of restriction strategies have been implemented for the Meander, South Esk, Ringarooma and Great Forester catchments.

The commission has provided temporary allocations to applicants for water rights on some streams where it expects the environmental flow requirements to be readily met within the current regime of licensed water entitlements. These temporary allocations apply for one season only and may be withdrawn if the streamflow reaches environmental risk levels at any time. Otherwise, until water management plans are established, environmental flows will be protected through the continuation of the current moratorium on new allocations and the implementation of water use restriction thresholds.

Under the Act, in areas where a water management plan does not exist, the Minister may approve applications for new water allocations (including water taken into dams) only where satisfied that this is in accordance with the Act's objectives. The relevant objectives are those in Tasmania's Resource Management and Planning System (see environment and water quality) which establish principles for sustainable development in the State.

Water management plans

Water management plans are statutory plans for a water course, lake or groundwater area under the Act. Future water allocations are to be addressed through water management plans following determination of environmental flows (see provision for environment section) and must include an assessment of likely detrimental effects arising from the take and use of the resource, including for water quality. Water management plans therefore establish a

link between managing water quality and quantity issues in a catchment. This occurs through obtaining community involvement in identifying protected environmental values and water quality objectives. The establishment of protected environmental values and water quality objectives occurs under the state policy on water quality management (see environment and water quality section).

A water management plan must provide for the allocation and use of water, including an assessment of the quantity of water needed by the environment, water allocations and usage policies, licensing arrangements, and, where appropriate, trading guidelines. In relation to the allocation and use of water, the plan must include an assessment of the capacity of the resource to meet the likely demands for water, and the effects of the plan on existing and future users.

A stakeholder steering committee appointed by the Minister oversees the development of water management plans. The committee is responsible for setting priorities using an agreed process for quantitatively defining catchment priorities according to stresses placed on waters, or other special management requirements. The committee identifies water values for catchments from a technical and scientific perspective, including non-negotiable environmental values which are implicit in various local, national and international agreements and legislation.

A water management plan is generally triggered where there is significant competition (actual or potential) for water resources, in particular between consumptive users and the environment. In-depth community consultation is required to address concerns about changes to water reliability and management provisions. As such, the water management plan represents the most appropriate means of documenting the final outcome of consultation in high priority catchments. Water management plans may also be triggered when there is a community need to amend water management practices in a particular catchment.

The following steps are required in developing water management plans:

- Minister to notify the public of intention to prepare a water management plan;
- identify key water interests for the resource;
- establish community and State water values;
- develop water management goals;
- review environmental water requirements (ecological and hydrological assessments);
- develop the water management plan content;
- develop the draft water management plan;

- release a draft water management plan;
- hold public meetings;
- review draft water management plan;
- consult with local councils, director of environmental management and director of public health;
- release a final water management plan;
- Minister to issue written notice of adoption of water management plan; and
- review and amend water management plan.

No water management plans have yet been completed and none have been released as drafts for public consultation. Tasmania has provided a progress report on the development of the 16 water management plans to be completed by 2005 in accordance with Tasmania's implementation program in Table 7.

Table 7: Status of water management planning for priority river systems

Catchment	*Original Timeline*	*Current Work Status*
Great Forester River	Dec 2004	Part complete.
Lower Ringarooma River	Dec 2003	Part complete.
North Esk River	Dec 2005	Part complete.
St Patricks River	Dec 2005	Part complete.
Upper Ringarooma River	Dec 2003	Part complete.
Liffey River	Dec 2002	Initial draft in preparation.
South Esk River	Dec 2004	Part complete.
Meander River	Dec 2001	Initial draft in preparation.
Elizabeth River	Dec 2002	Hydrological modelling completed
Macquarie d/s Ross	Dec 2003	Hydrological modelling completed
Tooms River	Dec 2002	Hydrological modelling completed
Lake River & Macquarie below Lake River	Dec 2004	Funding sought. Government priority.
Coal River	Jun 2004	Part complete.
Clyde River	Jun 2005	Project officer appointed.
Lower Mersey River	Dec 2001	Part complete.
Upper Mersey River	Dec 2001	Negotiations underway with Hydro Tasmania

Source: Tasmania (2001)

The 2001 Tasmanian budget statement indicates that seven water management plans will be progressed in 2001-02.[5] The State Water Development Plan is likely to result in earlier completion of some plans. Recent work and public consultation on the Meander and Great Forester Plans has brought forward the date of submission of the draft plans to the Minister to early-mid 2002 with the aim of getting the final plan endorsed before the start of the 2002 irrigation season. Tasmania is now confident that the implementation program for the water management plans should be delivered within the 2005 timeframe.

Where it is necessary to reduce water allocations in stressed or overallocated systems, a water management plan provides that procedure for the reduction, is equitable and that the various sureties attached to the licence or water allocations are taken into account. Where the taking of water is likely to have a detrimental effect on the quantity or quality of water that is available from another water resource, this must also be taken into account.

Where the majority of licence holders in a system agree, an application can be made for a water entity to take over responsibility for the management of a water management plan. Where this occurs, the water entity must provide a written annual report to the Minister on the administration of the water management plan.

Surfacewater overallocation

The National Land and Water Resource Audit's Assessment of Water Resources 2000 has provided data on surface water resource use for Tasmania. The data indicate there are no overallocated surface water resources.[6]

Tasmania has advised that for the purposes of the Audit, a very coarse approach was taken to determining environmental flows. Environmental flows were estimated for Australian Water Resources Council basins based upon a modification of the Montana (or Tennant) method. Using this method under the Audit, no stressed rivers were identified for Tasmania. An impact matrix assessment for environmental flows has been provided by Tasmania. Undertaken prior to the Audit this is a conservative approach to reporting progress on environmental flows (see attachment 1).

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5 In the Tasmanian 2001 Budget, the Ringarooma and the Mersey water management plans were identified for amalgamation of the upper and lower catchments of each into one plan for each river system. The Liffey River Plan will be amalgamated into the Meander River Plan.

6 It is noted that sustainable yield estimates were not provided in a number of rivers where allocations were high.

Groundwater overallocation

The National Land and Water Resource Audit's Assessment of Water Resources 2000 has provided data on groundwater resource use for Tasmania. The data indicate there are no overallocated groundwater resources. However, a report on groundwater in Tasmania states:

> *Assessments of whether the current use of groundwater is sustainable are severely limited by the available data. Currently there is no licensing system for groundwater extraction boreholes, and no requirement for major irrigation or other extraction proposals to carry out investigation and analysis of aquifer properties to relevant national or international standards … before commencement of such projects. … Monitoring of a limited number of boreholes across the State is undertaken by Mineral Resources Tasmania. In certain areas, particularly around Devonport, this data shows that over time, the static water level in boreholes is gradually falling. This indication of unsustainable depletion of the resource is presumed to be due to increased extraction borehole construction combined with land use change.* (Department of Infrastructure, Energy and Resources 2001, p. 6)

> *The (Act) provides for the licensing of extraction boreholes and for the development of integrated water management planning, but does not include any requirement for investigation of groundwater regimes and aquifers on a local or regional scale.* (Department of Infrastructure, Energy and Resources 2001, p. 9)

Tasmania has advised that due to the linkage between ground and surface water the water management plans currently being prepared will include the licensing and regulation of all "commercial" groundwater bores within the catchments of these plans. The Act is able to regulate groundwater and where aquifer usage is shown to be non-sustainable, steps will be taken to regulate groundwater usage. In areas outside current water management plan areas groundwater use can be regulated by the introduction of interim water management plans and/or the use of Regulations under the Act.

Overland flows and farm dams

Overland flows can be included in water management plans and regulated under the *Water Management Act 1999* as necessary.

The report by the Department of Primary Industries, Water and Environment on water availability in Tasmania indicates that farm dams can be built on-stream or off-stream, with the majority being built on-stream. The report states:

> *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 has advised that the Act allows a landholder to take surface water from that land for any purpose without needing a water licence. However, a water management plan may require a person taking surface water to require a licence. Hence, where the taking of surface water is deemed to be having a significant impact on catchment water resources, a water management plan could require water licences (with appropriate conditions) for the taking of surface water. It should also be noted that 'surface water' is defined in the Act as water not in a watercourse and because of the small size of most Tasmanian catchments, surface water quickly finds its way into a watercourse.

Tasmania's Department of Treasury and Finance 2001 budget papers indicate that for 1999-2000 there were 205 farm dams approved with a further 160 expected to be approved in the 2000-01 year. Tasmania has provided the Council with a dam assessment report. These are the guidelines used by the Assessment Committee for Dam Construction to approve farm dams. The Committee considers catchment water yields, environmental flow requirements, the requirements of downstream users, and water quality issues before approving water allocations to fill a farm dam. Tasmania has advised that water rights are only approved to take water during the winter-spring periods (high flow periods). Outside these periods, all water entering a dam must be released downstream.

Tasmania has advised that the State water development plan will drive the need for a formal policy on farm dams. The Assessment Committee for Dam Construction also raised the issue and it is expected that funds will be made available from the State water development plan to prepare a policy on farm dams during the next 12 months.

Assessment

The Council has reviewed the efficacy of property rights arrangements in Tasmania and considered further the provisions of the *Water Management Act 1999*.

The Council is of the view that it would be optimal for rights to be vested in the end user. However, where rights are not vested in the end user, the Council believes the rights must still be able to ensure a licence holder is able to:

- invest in the rights;

- buy and sell the right commodity — in effect, trade it; and

- plan business activities based on the surety of the rights.

For these reasons, the Council has reviewed the efficacy of property rights in terms of three criteria:

- the reliability should be specified. There should be enough information to enable stakeholders to know what they have got and to be able to trade;

- the length of the right, the presumption of rollover of a right unless there is a specific need for change, and the adequacy of the registry system need to be adequately established to enable the right to hold a third party interest such as a mortgage. It is noted that a right does not to be granted in perpetuity;

- whether there is provision for compensation during the terms of a plan based on the frequency and likelihood of the need for changes to the Plan. If there is a low frequency need and likelihood of change based on the needs of the environment during the duration of a plan, then no compensation may be necessary. If, however, there is a high frequency need for change based on environmental needs, for example, a high level of overallocation, then compensation should be payable.

The Council has reviewed the efficacy of property rights under the Tasmanian system. There is no end date on water allocations and changes to allocations can be made at any time, subject to appeal, and may be subject to compensation.

The Council has also reviewed the property rights regime to ensure there is enough specificity in the rights. There needs to be enough information in the rights.

With regard to the registry, it is the Council's view that it is the length of the property right, and the adequacy of the registry system that are needed to create the ability for third party interests to hold a mortgage. This has been addressed by the Water Information Management System. The system adequately provides for third party interests and sufficient coverage for lending including safeguards for water transfers. To make information on water licences more accessible, the Department of Primary Industries, Water and Environment is about to launch the licence register on its website.

The Council has held discussions with the Australian Bankers Association on the adequacy of the property rights system, in terms of bankability in each of the jurisdictions. The association has indicated there are no concerns with the Tasmanian property rights system at this time. Given the property rights system in Tasmania is still embryonic, the Council will monitor developments as issues arise. For example, the ability of third party interests listed on the register to have priority over non-registered interests is an issue that is quite likely to emerge over time.

The Council is of the view that the water for ecosystem policy which will determine the environmental water requirements across the State, and allow for further development in under utilised catchments is an appropriate one for Tasmania's circumstances. Licences may specify periods after which the Minister may vary the conditions of licences or reduce allocations to meet environmental conditions where necessary.

The National Land and Water Resource Audit's Audit 2000 noted that there are no surface or groundwater areas of Tasmania that are overallocated. However, the Department of Primary Industries, Water and Environment has noted there are some critical shortfalls during the summer period and that two systems, the South Esk and the Meander, could be considered to be overdeveloped or stressed. The sustainable estimates are preliminary and Tasmania is engaging in further work to better define these estimates. The Tasmanian system provides for compensation in certain circumstances, however, it is still likely the need to pay compensation is very low.

The Council has noted some substantial progress in determining water management plans since the last assessment. That said, Tasmania has advised that the target dates for completion for the Meander (including Liffey) water management plan have been put back because of the renewed interest in the possible development of the Warners Creek Dam on the Meander River. This has lead to considerable uncertainty in the community in the lead up to the water management plan. Work is still progressing on this plan and it is now expected to be completed by late 2002. However, if Warners Creek Dam is built it will have a major impact on water management in the catchment and the plan produced. For example, such a dam would provide additional water for irrigated agriculture and town water supplies. It is expected that feasibility studies, to be conducted in the next 6 to 12 months, will resolve the issue of whether the dam is to be built and the timeframe for completion of the water management plan.

The water management plan for the Mersey (upper and lower) was not considered to be as high a priority as the plans for the Great Forester and Ringarooma catchments which were subsequently brought forward in its place. The community on the Mersey was also busy in 2000 developing a broad catchment management plan and Tasmania considered that is was better to wait until that was completed before embarking on another round of community consultations for the water management plan. Catchment plans have already been completed for the Great Forester and Ringarooma catchments and this resulted in increased awareness and knowledge of natural resource management in these communities which is of benefit to the subsequent water management plan process.

Nevertheless, Tasmania has advised that the lessons learned from the initial planning processes and the establishment of generic plan frameworks has generally accelerated the process. Tasmania is now confident the 16 water management plans can be completed within the 2005 timeframe.

The only concern that the Council has is on the issue of farm dams. Tasmania has advised that it is expected that a policy on farm dams will be put in place

within the next 12 months. The Council will review this issue at the next assessment.

The Council is of the view that Tasmania's system of water property rights meets the requirements for the 2001 NCP assessment.

Provision for the environment

Jurisdictions must establish a sustainable balance between the environment and other uses, including formal provisions for the environment for surface water and groundwater consistent with the ARMCANZ/ANZECC national principles.

Best available scientific information should be used and regard should be had to the intertemporal and interspatial water needs of river systems and groundwater systems.

For the 2001 NCP assessment, States and Territories have had to demonstrate substantial progress in implementing their agreed and endorsed implementation programs. Progress must include at least allocation to the environment in all river systems that have been overallocated, or that are deemed to be stressed. By 2005, allocations and trading must be substantially complete for all river systems and groundwater resources must be identified in implementation programs.

Jurisdictions are to consider environmental contingency allocations, with a review of allocations five years after they have been initially determined (clause 4b to f).

Tasmania has adopted a regional approach to address the flow requirements of rivers.

In the second tranche assessment, Tasmania identified 16 river systems as 'stressed' in their implementation program. The South Esk basin and the Northeastern region contain the majority of river systems with 12 systems in total. The Southern Region and North West Region contain two river systems respectively. The southwestern regional rivers are largely pristine and in the World Heritage Area. The majority of these rivers are subject to no abstraction of water and are of the lowest priority for environmental assessment.

Tasmania has recently finalised a water for ecosystem policy to allow for further development of the State's water resources in areas where the level of stress on the water resource is low. The policy allows for desktop evaluation of environmental water requirements in under-utilised catchments together with triggers at which robust environmental flow assessments will be undertaken. The policy also provides guidance on appropriate methods with which to assess environmental water requirements and the selection of appropriate environmental water provisions.

In reporting on progress since the second tranche NCP assessment, Tasmania addressed water allocations for the environment in two phases. First, the Department of Primary Industries, Water and Environment is determining environmental water requirements across the State to address the flow requirements for rivers. The Department uses detailed methodologies for stressed river systems and rapid assessment desktop methodologies for lower

priority systems. Second, for stressed river and groundwater systems that portion of the environmental water requirement that can be achieved will be determined by environmental water provisions based on environmental, economic and social considerations as determined by the community and incorporated into statutory water management plans.

Tasmanian arrangements

Water for ecosystem policy

The Department of Primary Industries, Water and Environment has recently finalised a water for ecosystems policy — an administrative policy under section 8(1) (b) of the Water Management Act — which will provide the basis for all future State developments in relation to provision of water for ecosystems.

The policy provides guidance for the provision of water for ecosystems both within and outside the context of water management plans. The Act requires that the water needs of ecosystems must be recognised in day-to-day management of catchments which do not have plans. A specific aim of the policy is to allow for further development of the State's water resources in areas where the level of stress on the water resource is low.

The policy has been discussed with key stakeholder groups from agriculture, conservation, aquaculture and industry and will be reviewed every 10 years. The policy is currently awaiting the signature of the Minister responsible for the Water Management Act.

The policy provides for environmental water requirements and water provision for the environment.

- An **environmental water requirement** 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 application of local knowledge based on years of observation.

- A **water provision for the environment** is 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 environmental water provisions.

Both environmental water requirement and water provisions for the environment will be quantified as average flows and/or average levels on monthly time steps.

A stressed aquatic system will now be defined as one which exhibits scientific evidence of degradation relating to the allocation of water to diversions, storage or consumption. That is, a system that does not receive the full environmental water requirement as estimated using the relevant methodology. For stressed systems, the low flow period environmental water requirement will be established using the instream flow incremental methodology wherever possible or other suitable scientific methods. Outside of the low flow period, holistic methods will be used to determine the environmental flow requirement including assessment of spawning flows, flushing flows, and channel maintenance flows.

For unstressed ecosystems, the water provision for the environment will be set equal to the environmental water requirement and allows for the desktop evaluation of environmental flows together with triggers at which more robust environmental flows assessment will be undertaken. Where the ecosystem is controlled by a water body through flow or water height through storage or release of water from dams, the relevant scientific methods will be used to provide a holistic assessment of the environmental water requirement.

Application of Risk Assessment

In accordance with the precautionary principle, Tasmania will adopt the environmental water requirement as the water provision for the environment wherever possible.

A moderate risk water provision for the environment may only be established if current permanent water allocations exceed those which would otherwise have allowed the environmental water requirement to be adopted, or under direction from the Minister after due consideration of environmental, social and economic issues.

A high risk water provision for the environment will not be adopted unless approved in writing by the Minister following a comprehensive review of the environmental, social and economic issues, normally as part of the negotiation of a water management plan.

If a predetermined trigger level of water allocations has been reached, or if there are major changes proposed regarding the regulation or allocation of water from a waterbody, formal water provisions for the environment will then be provided.

Progress against Tasmania's implementation program

Environmental water requirement assessments

Tasmania has provided a progress report to demonstrate that substantial progress has been made in identifying environmental flow requirements

against the implementation program. Detailed information on progress has been included in an environmental flow/water for ecosystem impact matrix at attachment 1.

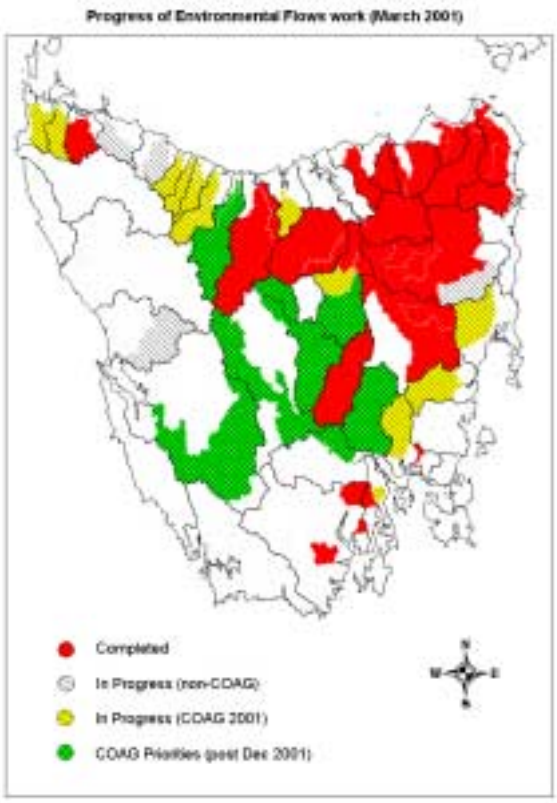
Environmental flow priorities for Tasmania were set based on a number of factors in the impact matrix. Factors included the ecological status of Tasmania's estuaries, water quality, threatened species issues, existing water allocations and water development pressures. A number of these issues were combined into simple ratings (for example, instream ecology priority) and either assigned classifications of high, medium and low, or alternatively ranked in accordance with priority.

Stressed rivers were identified by giving weight to the water use priority column which compares relative allocation of water with the available resource. Tasmania developed National Competition Council environmental flow timelines based upon consideration of the level of stress as well as resource constraints.

Tasmania's implementation program as published in the second tranche NCP assessment report identified 47 water resources where environmental flow assessments were either completed, underway or proposed.

Since the second tranche NCP assessment, Tasmania has reported that environmental water requirements have been assessed and established for 28 river systems in the State, including all the priority 1 and 2 rivers. Currently work is progressing on the priority 3 rivers and the post December 2001 work program includes all the priority 4 rivers. The majority of the unmarked areas of the map below are the west and south-western regional rivers that include largely pristine rivers in the World Heritage Area. The majority of these rivers are subject to no abstraction of water and are of the lowest priority for environmental flow assessment. The implementation of the environmental flow provision will occur through the water management plan process or through application of the water for ecosystems policy.

The Water Management Act requires that environmental flows be considered before allocations are made. Hence, wherever environmental water requirements have been determined and approved by the Minister, these will be the basis for all future water allocation decisions in accordance with the objectives of the Act. If an allocation was refused or appealed against on environmental grounds, the environmental water requirements would be the basis for the Department of Primary Industries, Water and Environment justifying its decision to the Resource Management and Planning Appeals Tribunal.



Environmental flows on stressed systems

In the second tranche assessment, Tasmania identified 16 overallocated or stressed river systems in their implementation program (category 1 and 2 rivers in attachment 1). There are no additional river systems to add to the stressed river program at this time.

Tasmania has reported on progress against the implementation program including in the:

- northeast, detailed environmental water requirements have been completed for the Great Forester, Lower Ringarooma, North Esk and St.Patricks, Upper Ringarooma and George River;

- midland and southern areas, environmental water requirements are completed for the Elizabeth, Tooms, South Esk, Meander, Liffey, Macquarie, and Clyde rivers. Assessments are proceeding for the Coal and Lake Rivers; and

- northwest area, environmental water requirements have been completed for the Upper and Lower Mersey.

Of the 16 stressed rivers identified, environmental water requirements are complete for 14 systems, with only the Coal and Lake River processes yet to be completed.

Environmental flows on unstressed systems

By March 2001, Tasmania had completed assessments of environmental water requirements for 13 unstressed systems including in the:

- northeast, the Little Forester, Ansons Rivulet, Boobyalla River, Little Musselroe and Great Musselroe river systems;
- East Coast region, the George River;
- midland and southern areas, the Mountain, Esperance Rivers and Nichols Rivulet; and
- northwest area, the Duck River.

A further 13 unstressed river systems are currently being assessed. Tasmania has also added a number of other unstressed rivers of relatively lower priority (from the point of view of stress) to the timetable due to available resources.

Special licences

The Hydro Tasmania special licence specifies the Hydro Tasmania must not cause significant detrimental effects to other users or to the aquatic environment. Hydro Tasmania is now required to complete an environmental and hydrological monitoring program and provide the results to the Department of Primary Industries, Water and Environment on an annual basis. The Department is entering into agreements with special licence holders as a means of establishing a set of licence conditions.

Tasmania has advised that water provisions for the environment are a necessary requirement of these licences and that an environmental variation of the terms and conditions of a special licence does not entitle the Licensee to compensation under the Act.

In the case of the Hydro Tasmania, it has been agreed that water provisions will be investigated and implemented as part of a formal water management plan consistent with the objectives of the Act. In particular, an environmental variation to the terms and conditions of the Licence required to implement a water management plan will be made subject to the following:

- implementation must occur if the objectives of the Act are to be achieved;
- where it has been established using best scientific assessment and in consultation with the Licensee, that there are no reasonable alternatives to achieve the environmental outcomes sought in pursuance of the Act's objectives;
- where the implementation of the relevant provision of the water management plan is necessary to ensure the sustainability of an existing ecosystem; and

- where it can be established using best scientific assessment, and in consultation with the Licensee, that the Licensee is the direct cause of the environmental effect that the water management plan is seeking to address.

Review of allocations

The *Water Management Act 1999* requires the Secretary of the Department of Primary Industries, Water and Environment must review the entire water management plan at least once during each period of five years following the adoption of the plan.

Discussion

National principles for the provision of water for ecosystems

The ARMCANZ/ANZECC national principles of water for ecosystems relevant to this assessment are discussed below.

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

The implementation of the environmental flow assessment program, as well as the development of environmental water requirements and the development of water management plans for stressed or overallocated systems, clearly recognise the potential and actual impact of river regulation and/or consumptive uses on ecological values. This occurs in accordance with the objectives of the Act. Water management plans are required to include an assessment of the ecosystem requirements and any detrimental effects that the taking or use of water may have on the need of any other relevant water resource. The Council is satisfied that this principle has been met.

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

In the second tranche assessment, the Council recognised the legitimacy of using a range of approaches to identifying the needs of water resources that vary in terms of size and stress.

The Department of Primary Industries, Water and Environment use a mix of appropriate methods to determine environmental flow requirements. For low stress situations desktop methods are used while in high stress rivers, instream flow incremental methodology is used. External, independent experts are also used, via consultancies, to assist in determining environmental flow requirements of the most complex systems, such as the Derwent estuary.

Tasmania is using the Australian River Assessment System (AUSRIVAS) model of river health (based on aquatic macroinvertebrates) as the principal biological protocol for assessment of the environmental benefit under new flow regimes. The Department of Primary Industries, Water and Environment under the National River Health Program have developed AUSRIVAS models for the northern and western areas of Tasmania and models are currently being developed under the first National Assessment of River Health for the eastern, south-eastern and midland regions.

The Victorian index of stream condition is being used to assess catchments in the north-eastern region of Tasmania. Elements of this index will be used for monitoring the benefits of environmental flows in the area.

The Department of Primary Industries, Water and Environment is using AUSRIVAS and the index of stream condition in its state of river reports and as tools in environmental flow monitoring.

The Council is satisfied that Tasmania is meeting this principle.

Principle 3: Environmental water provisions should be legally recognised.

The water management plans to be developed for stressed rivers will be statutory based in accordance with the Act. In the interim, environmental flows will be protected through the continuation of the current moratorium on new allocations and the implementation of water use restriction thresholds.

The environmental water requirements for non-stressed rivers that will not be the subject of water management plans are legally recognised through the water for ecosystems policy, which is a policy under section 8(1)(a) of the *Water Management Act 1999*.

The functions and duties of the Minister under the Act are to manage the water resources of Tasmania and allocate water available from watercourses (including lakes, wells and surface water) in a manner consistent with the objectives of this Act. When making a decision based on the quantity of water available from a water resource for a period, the Minister must take into account the needs of the ecosystems that depend on that water resource.

The Council is satisfied that Tasmania has adequately addressed this principle.

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

It is noted that the National Land and Water Resource Audit's found no overallocated systems for Tasmania.

However, a report by the Department of Primary Industries, Water and Environment on water availability noted the presence of a critical period between December and April when licensed allocations have been capped on most streams. While on an annual basis there are no overdeveloped management areas at the scale reported by the National Land and Water Resource Audit's report, the Department noted:

> *At a more detailed level of analysis that takes into consideration the critical period there may be at least two areas that could be classed as overdeveloped (South Esk and Meander Rivers in the Tamar SWMA) as well as a change from category 2 to 3 for some regions. Water use compared with the allocated rights is another factor placing catchments under stress. Recent surveys on a number of catchments indicated that use was up to 4 times greater than existing allocations* (Department of Primary Industries, Water and Environment 2001a, p. 8)

Tasmania has advised that for the South Esk and the Meander, all existing allocations are to be converted to allocations on new water licences under the Act. The current 'temporary' water allocations will have a lower surety than the allocations converted from existing commissional water rights. When the water management plans are implemented in 'stressed rivers' these lower surety rights will be restricted more frequently than at present so as to maintain the environmental flow provision of the river.

The determination of environmental water provisions for the stressed systems will determine how this criteria will ultimately be addressed. The Council will conduct another assessment of Tasmania's progress in this area when the first water management plans are finalised. On the basis of the audit finding that there are no overallocated rivers in Tasmania, the Council considers that Tasmania has met this commitment for this assessment.

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

In the June 1999 assessment, the Council noted that States and Territories would have to demonstrate substantial progress in implementing their agreed and endorsed implementation program for the 2001 NCP assessment. Progress must include at least allocations to the environment in all river systems which have been over-allocated or are deemed to be stressed by June 2001. By the year 2005, allocations must be substantially completed for all river systems and groundwater resources identified in the implementation programs. The Council noted in its assessment that implementation programs could be changed over time, provided there is agreement between the jurisdiction and the Council.

Given the Department of Primary Industries, Water and Environment recognition that for a critical period over December to Autumn when two areas (South Esk and Meander Rivers) could be classified as overdeveloped.

The Council will review the management plans for these rivers when they become available to determine if Tasmania has addressed the issue of allocations for the environment over the critical period.

The Council has previously noted that the processes for determining environmental water requirements have been slower than Tasmania anticipated. Tasmania has recognised this and devoted more resources to the process. The lessons learned from the initial planning processes and the establishment of generic plan frameworks has accelerated the process. Tasmania is now confident that the water management plans will be completed by 2005.

The Council will conduct another assessment of Tasmania's progress in this area in June 2002 against the implementation program. The Council considers that Tasmania has met this commitment for this assessment.

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

No water management plans have progressed to the draft stage at this time. This is an issue which will need to be examined when a final plan is put in place. At that time, the Council will examine if the plan complies with the objectives of the Act. There is insufficient information to determine that Tasmania has met this commitment for this assessment.

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

In undertaking its water management responsibilities under the Act, the Department of Primary Industries, Water and Environment is required to maintain agreed environmental flows, to not compromise protected environmental values established under the State water policy, and to abide by environmental protection measures and monitor the environmental impacts of its activities.

Under the Act, the Minister may authorise the taking of measurements and samples of water and any other material which may affect water quality and require those responsible for implementing the plan to provide the Minister with information relating to any activity for the purpose of the plan. The Minister must be provided with a written report on the administration of a water management plan on an annual basis or at any other time concerning progress over the preceding 12 month period.

The report is to include:

- a full financial statement of all matters relating to the water entity's administration;
- details of all activities undertaken in discharging its responsibilities; and

- such other information as the Minister may require for the purpose of ensuring the due administration of the water management plan.

The Council notes the process described above has been initiated, though it has not progressed to the stage where outcomes can be examined. The Council is satisfied that Tasmania has met the principle for this assessment.

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

Tasmania appears to have no coordinated Statewide programs for assessing river health except for the AUSRIVAS project which relies on Commonwealth funding. The state of the river reporting process underway may also provide some useful monitoring information depending on its frequency of updating reports. The index of stream condition is used to assess streams in the north-eastern region. However, there are questions whether it is sensitive enough to detect impacts of environmental provisions.

Tasmania has advised that water management plans are required to be reviewed in their entirety at least once every five years, and will specify monitoring requirements. protected environmental values can be reviewed at any time under the State policy on water quality management.

For unstressed ecosystems, the setting of environmental water requirements based on desktop evaluation will specify triggers at which review and more robust environmental flows assessment will need to be undertaken to meet the objectives of the Act and incorporate the necessary changes. The Council understands that the environmental water requirements will be publicly announced and the trigger points will be advertised to the community. The Council will need to consider the basis for these triggers in a future assessment.

The Council is of the view that Tasmania is seeking to address this principle and will monitor developments in this area in future assessments.

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

The water management plan process when implemented should enable long term protection for existing aquatic values for both surface and groundwater. Environmental flows for specific water resources are determined in relation to the protected environmental values and water quality objectives established for the resource. In effect, the environmental flow is the streamflow regime required to ensure that the agreed protected environmental values and water objectives are not compromised.

Protected environmental values currently cannot be set for groundwaters in a manner which will satisfy the requirements of the policy. The Steering

Committee responsible for implementation of the State policy on water quality management (see water quality section) considers that this must be considered in the proposed examination of critical amendments to the policy. The committee has recommended to the Minister that it is essential that efforts are made in the coming year (2001-02) to resolve the difficulties being experienced regarding protected environmental value setting for groundwaters.

The Council is satisfied that Tasmania is making efforts to comply with the principle, and the Council will monitor this issue in future assessments.

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

Water licence fees include a component to cover some of the costs of water quality and quantity monitoring. Also, any externalities that are actually costed and charged for are included in water charges. For example, the Rivers and Water Supply Commission recoups the costs associated with management of algal blooms in Craigbourne Dam through the irrigation rights charges paid by irrigators in the South East Irrigation Scheme.

The Council is satisfied that Tasmania is addressing this principle.

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

Tasmania has identified further research work to establish environmental flow requirements and the formal implementation of those requirements as a priority.

Studies are being conducted into characterising water regions across Tasmania — identifying and defining regions which have similar quality, quantity and fluvial geomorphic characteristics. Further scientific study is also being undertaken via external scientific consultancies in order to establish environmental flow requirements for complex systems. These are being undertaken for the 'Basslink rivers' and for the Derwent Estuary.

The Council is satisfied Tasmania is meeting this principle.

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

The Act requires that the development and implementation of environmental flows and water management plans are subject to ongoing consultation of all relevant stakeholders including all agencies with direct interests, local government, licensees, any holder of prior rights, the Director of Environmental Management, and the Director of Public Health.

Draft water management plans are required to be prepared and publicly exhibited for 60 days, any person may make written submissions relating to the plan, and public meetings must be held within 30 days to discuss the draft plan. There is also strong community input in determining protected environmental values. There has also been consultation as part of the ongoing development on the State water development plan.

Tasmania has provided the Council with an organisational chart which shows how stakeholders views are incorporated into the water management plan process (attachment 2). The Council considers that Tasmania meets this principle.

Assessment

To meet the objectives of the Act, Tasmania has established the Water for Ecosystem Policy. As part of that policy, Tasmania has determined the environmental water requirements for all stressed systems and is now well placed to meet the timetable for completion of the water management plan process for stressed rivers.

The Council is satisfied that Tasmania has met its commitments for this assessment.

Water trading

Governments have agreed that water trading arrangements should be in place to so as to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments (clause 5).

Water trading in Tasmania is still in the early stages of development. The High Level Steering Group on Water noted that:

> *Water trading has the potential to speed up the sustainable development of water resources in many catchments in Tasmania where the resource is close to, or fully allocated but in a number of others trading will be limited until surplus water is fully allocated.* (HLSGW 2001)

Trade is possible within both regulated and unregulated catchments, but is concentrated in the three regulated irrigation districts operated by the Rivers and Water Supply Commission. Water use in these districts is rapidly increasing, in some areas almost doubling in recent years. The growth in use has resulted in an increase in the demand for water trading.

While there has been significant growth in water use and trade in regulated districts in recent years, regulated water accounts for only around 10 per cent of the total entitlement in Tasmania. The passage of the *Water Management Act 1999* established a new framework for the allocation and transfer of water rights in unregulated areas, where the remaining 90 per cent of water entitlement are found. However, trading may be limited in these areas until resources become fully allocated.

Trading within Tasmania

Legislative base

In the June 2000 supplementary second tranche assessment, the Council found that Tasmania, largely through the passage of the *Water Management Act 1999*, had met water trading requirements for the second tranche assessment to establish an appropriate legislative framework for allocations and trading.

As discussed previously, provision for water licences and allocations are made under water management plans of the Act. These plans may also provide for the temporary and permanent transfer of water allocations.

Water trading in Tasmania has been established through the *Water Management Act 1999* (for water resources outside formal irrigation districts) and the *Irrigation Clauses Act 1973* (within formal irrigation districts), which provides for widespread trading including in unregulated areas. The Water Management Act also provides for the creation of water districts and irrigation districts as per the *Irrigation Clauses Act 1973*. Outside formal irrigation districts, the Minister for Primary Industries, Water and Environment regulates all transfers. Within formal irrigation districts, the water entity responsible for the administration of the district regulates all transfers.

Unregulated water

In the case of unregulated water resources, prior to the commencement of the Act, water entitlements were known as Commissional Water Rights (see section on allocations). The Act established a new water entitlements system where water licences are not legally attached to land titles and are transferable. The key elements in relation to trade are set out below:

- a licensee may transfer all or part of the water allocation on his or her water licence to another person. The transfer may be absolute — permanent sale of the water — or for a limited period — temporary lease of the water;

- the transfer must be in accordance with any relevant water management plan or, where there is no relevant water management plan, in accordance with the objectives of the Act;

- the transfer of water licences requires the approval of the Minister on a case-by-case basis;

- the Minister may modify or refuse to approve a proposed transfer if the transfer would have a significant adverse impact on other water users or the environment, or if, after the transfer, the quantity of water available to the transferee would be in excess of the quantity that could be sustainably used;

- the Minister may require an applicant for a transfer to pay for an assessment of the effect of granting that transfer; and

- a transfer of an allocation on a licence can only be approved with the consent of any person noted on the register of water licences as having an interest in the licence (for example, a mortgagee).

A proponent must hold a water licence in order to obtain a water allocation. If the transferee does not hold a licence, they must apply for a licence when applying to transfer the allocation. Pre-approval of these applications is possible. A transfer application must be approved where it meets certain conditions, including consistency with the objectives of the Act conditions can be imposed on the transfer, including a reduction in the water allocation or variation of licence conditions. The Minister may modify or refuse an application where it would have a significant adverse impact upon other users or the environment. Further, the Minister may require the applicant to pay for an assessment of the implications of the transfer.

In addition, an absolute transfer, or permanent transfer, is not permitted until 1 January 2003 unless the:

- transfer is pursuant to the transfer of land with a specified water allocation (in which case the water may only be used on this land); or

- proposed transferor has certified in writing that he or she has obtained independent financial advice on the likely effects of the transfer on any business activities dependent upon the allocation.

The Act also provides for the establishment of a register of licences, including notification of financial interests. Consent of a person holding a financial interest in a licence is required prior to approval of the transfer.

Regulated systems

In regulated systems, the *Irrigation Clauses Amendment Act 1997*[7] established a system of irrigation rights that are separated from land and are transferable within the irrigation district, subject to any conditions imposed by the Minister. The Amendment Act came into effect in December 1998 following the development of trading rules by the Rivers and Water Supply Commission.

Irrigation scheme operators provide irrigation rights to occupiers of land in the irrigation district. Irrigation rights provide for a volume of water to be supplied each irrigation season. The right may be specified with different sureties in the case of the scheme being unable to provide sufficient water.

Only an owner or occupier of land in the district, or a person who may hold land in the district, may hold irrigation rights. As for unregulated systems, irrigation rights can be leased for a period of time or sold outright. Rights may be transferred within the irrigation district. An application to trade should be made to the scheme operator and comply with the conditions relating to the availability of water, infrastructure capabilities and the impact on the environment. If rights are to be traded out of an irrigation district, the scheme operator would need to transfer a portion of their licence on behalf of the irrigator.

A holder of an irrigation right who no longer owns or occupies land in the district must transfer the right within six months or forfeit the right. The Minister may give a single extension of six months.

Special licences

The holder of a special licence may apply to the Minister for the transfer of the licence to another person who is permitted to hold a special licence. The Minister must consult the advisory committee before considering the application. The Minister must approve the transfer unless it would be contrary to the objectives of the Water Management Act.

Institutions and policies

One of the key functions of the Commission is to manage three irrigation areas.

Trading is administered in the three irrigation districts, the South East Irrigation Scheme (stages one and two); the Cressy—Longford Irrigation Scheme; and the Winnaleah Irrigation Scheme through the scheme operators. The Commission, in consultation with users, has developed a set of transfer

[7] The Amendment Act amended the *Irrigation Clauses Act 1973.*

rules for transfers in irrigation schemes. Box 2 provides a summary of the rules.

Box 2: Trading Rules in Tasmanian Irrigation Districts

- the Commission may refuse any proposed trade on the grounds that:
  - supplying the water would have a significant negative effect on other users; or
  - the Commission is not able to supply the water due to the capabilities of existing physical infrastructure or water availability.
- the Commission may require the preparation of a water development plan to ensure the sustainability of the proposed trade with approval being contingent on the implementation of the plan;
- applications for trades incur an administrative and registration fee (currently $25). A fee to recover the cost of any technical assessment of applications is also imposed;
- applicants must provide evidence that any parties with financial interest in an irrigation right or land to which it relates approve of the trade; and
- the Commission may refuse a transfer if it is likely to result in the movement of water from primarily irrigated agriculture to another purpose[8].

Source: Water and River Supply Commission (1998)

The Department of Primary Industries, Water and the Environment is the Tasmanian Government department responsible for the operation of the Act.

Trading to date

Regulated Systems

Government regulated water in Tasmania accounts for only 10 per cent of the State's water use. Temporary trade in Tasmania has been occurring in the three Government irrigation schemes for the last two years. This was achieved through the Amendment Act.

Water use in the trading districts is increasing significantly. For example, water use in the Cressy—Longford scheme almost doubled from

8 The stated reason for this restriction is to prevent subdivision in the Catchment and the associated use of water for domestic purposes.

3 800 megalitres in 1998-99 to over 7 500 megalitres in 1999-2000, highlighting the need for an effective trading market. Table 8 shows the distribution of trades in Tasmania over the past three years.

Table 8: Total Water Transferred in Tasmanian Government Irrigation Schemes 1998-99 to 2000-01

Scheme		*1998-99*	*1999-2000*	*2000-01 (to 28/2/01)*
Cressy—Longford Irrigation Scheme	Water Supplied (megalitres)	3 821.29	7 505.1	6 235.08
	No. of trades	3	13	3
	Water Traded (megalitres)	230	850	117
	% water traded	6%	11%	2%
South East Irrigation Scheme	Water Supplied (megalitres)	2 279.91	3 536.64	1 754.29
	No. of trades	18	63	22
	Water Traded (megalitres)	210	677	325
	% water traded	9%	19%	19%
Winnaleah Irrigation Scheme	Water Supplied (megalitres)	3 485	3 546.2	3 507.3
	No. of trades	1	10	2
	Water Traded (megalitres)	106	245	40
	% water traded	3%	7%	1%

Note: Temporary trade accounts for the majority of this trade

Source: Department of Primary Industries, Water and Environment (2001, unpublished)

Tasmanian officials have advised that there is little (if any) demand for trade between regulated and unregulated systems.

Unregulated rivers

Temporary water transfers have been occurring in unregulated rivers in Tasmania for some time. Until the passage of the Act, these transfers did not have specific legislative backing, but were instead undertaken through the issue of temporary water licences under the *Water Act 1957*.

The passage of the Water Management Act provided a legislative base for trade in unregulated systems. In the 2001 NCP annual report, Tasmania

suggested that 34 megalitres a day was transferred in unregulated streams in the State during the 2000-01 irrigation season.

To assist in the transition to the new trading arrangements under the Act, about 500 commissional water rights holders who were interested in trading over the 2000-01 summer, had their rights preferentially converted to licences and allocations to allow them to participate in the 2000-01 season.

Discussion

Consistent with commitments under the CoAG water agreement, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the physical, social and ecological constraints of catchments.

In making its assessment, the Council recognises that the means through which jurisdictions achieve these reforms will vary. However, to provide a consistent basis for assessment, the Council has evaluated the arrangements in each jurisdiction against a common set of key criteria, which are consistent with recent work by the High Level Steering Group on Water (2001).

As trading in most jurisdictions is still in its infancy, the assessment has focussed on the establishment of mechanisms, policies and information that provide a sound foundation for efficient water trading. Particular focus in this assessment has therefore been extended to:

- the clear definition of sustainable water rights;
- adequate specification of appropriate trading rules and zones;
- appropriate market procedures; and
- accessible and equitable market information.

In future assessments, the Council will look for evidence of effective trade in areas of demand and measures to be in place to increase the depth of water trading markets.

Clear definition of sustainable water rights

Tasmania's progress on the definition of water entitlements has previously been discussed in the section on allocations and property rights. Discussion here will focus solely upon the impact of these issues on the efficacy of the intrastate trading market.

Nature of the right

As noted in the discussion on property rights the Council is satisfied that water rights are sufficiently specified in both regulated and unregulated areas.

Allocations have been clearly separated from the access right, or licence, in Tasmania. Licences are specified in terms of:

- the water resource from which the water is to be taken;
- where the Minister considers it to be appropriate, the surety with which a water allocation can be expected to be available for taking;
- any conditions under which the licensee may take water or the licence or a water allocation of the licence may be transferred;
- any periods after which the Minister may vary the conditions of the licence; and
- other terms and conditions as may be prescribed.

Ownership

Currently for unregulated water, it is likely that trading will be partially restricted until all former water entitlements that were attached to land titles have been converted into water licences under the new Act. However, the conversion of these rights is expected to be completed by November 2001 (High Level Steering Group on Water 2000b). This process has been prioritised for those right holders who expressed an interest in trading during the 2000-01 irrigation season.

Irrigation rights are freely transferable within the irrigation scheme. It is also possible to transfer the right out of an irrigation area, although in practice there is rarely the demand to do so. In this case, the scheme operator would have to trade on behalf of the irrigator. However, water rights are valuable assets within the irrigation districts and a buyer would usually be found within the district. One practice that has been utilised by all of the irrigation districts to easily overcome this problem is to incorporate the new properties into the irrigation district. While this does not provide an allocation or water right to the property owner, it does allow them to freely trade within the district.

The previous discussion on property rights notes that given that the risk of clawback or reduction in allocations is low, the Council finds that the ownership of water rights is sufficiently well defined so as not to provide an impediment to trade.

Much of the detail of the property right will be specified in the water management plans that are still being developed. Therefore, the Council will

revisit this issue in future assessments to determine the impact of the introduction of water management plans on water rights.

Water trading zones and rules (where and how people can trade)

Generally speaking, trading rules in Tasmanian regulated systems are well defined. Given the drought conditions facing Tasmania, a relatively large amount of trade has occurred in some areas in recent years. Tasmania has advised that in areas where trading was low, this was likely to be a result of low demand rather than impediments to trade, particularly given that substantial trade was occurring elsewhere under the same market model. The Council accepts that this may be the case although there are a few issues of importance that the Council has noted.

The Council is aware that water management plans have the provision to include local rules for the transfer of water rights. To date, however, no water management plans have been completed. As such, the Council has not been able to determine the efficacy of any trading rules that the water management plans will contain. Trade is still possible in the meantime and will be governed by provisions in the Act for unregulated systems, or the *Irrigation Clauses Act 1994* and Rivers and Water Supply Commission trading rules in regulated systems.

The second tranche assessment noted that section 96 of the Act provides a clear impediment to trade of unregulated water. The section provides that a permanent, or absolute, transfer of a licence or water allocation may not be made within three years of the commencement of the Act unless certain conditions are met (see discussion in the section on legislative base).

Although this is a restriction on permanent trades, it is for a transitional period until January 2003 only and will provide time for the community to become familiar with water trading. It does not prohibit permanent trade. Rather, it ensures that potential transferors are aware of the implications of the transfer. If combined with increased information availability and community awareness of water trading, the restriction may result in the long-term facilitation of water trading.

The trading rules for regulated systems establish conditions on the transfer of water rights. Generally, the conditions embodied in these rules do not pose a significant impediment to trade within the irrigation districts in Tasmania. However, the Commission can refuse to approve a transfer where the transfer may result in water that is used principally for commercial irrigation being used for another purpose after the proposed transfer. This is intended to provide for situations such as the subdivision of irrigation properties and the associated use of Commission supplied water for domestic purposes. The Council understands that this is generally only an issue in the South East Irrigation Scheme and will not result in a significant impediment simply because the volume of water in the irrigation scheme is small.

In examining this issue, the Council is concerned that this condition may be inconsistent with CoAG water trading commitments. From a market perspective, there is little difference between water used for irrigated agriculture versus water used for other purposes such as mining or domestic supplies. In fact, as mining and domestic supply are often high value uses, restricting access to water may, in effect, prevent water from realising its highest value. A better mechanism to manage subdivision of properties within the irrigation district may be found through local planning regulations and processes.

The Council notes that this condition provides the Rivers and Water Supply Commission discretionary power to restrict these trades and is not an outright prohibition. The Council will continue to monitor this situation in future assessments.

With these exceptions, the Council believes that there are few restrictions on or impediments to the efficient transfer of water. However, when released, the water management plans may include trading rules. The Council will therefore reconsider this issue in future assessments to determine the efficacy of trading rules introduced under the water management plans.

Markets and trading procedures

To improve the security of water rights for the buyers and sellers, Tasmania has established a register of water rights. While this registry does not provide indefeasibility of the water right, it provides information on the right itself, including the ability to register a financial interest in the right. The Rivers and Water Supply Commission is unable to approve a transfer unless the consent of all persons with an interest in the right is obtained. Pre-approval of licence applications is also possible, so that when negotiating for a water right, a buyer can be assured that they will be able to hold and use that allocation.

To protect the environment and third parties, the Act also requires that transfers:

- are consistent with the objectives of this Act and any relevant water management plan;
- could not reasonably be expected to lead to material environmental harm or serious environmental harm; and
- will not have a significant adverse impact on other persons taking water from the relevant water resource.

The Commission has developed a set of rules for the transfer of water entitlements within the irrigation schemes (see the institutions and policies section). However, with regard to buyer and seller checks, the rules provide for the Commission to:

- require the preparation of a water development plan to ensure the sustainability of the proposed trade with approval being contingent on the implementation of the plan;

- refuse any proposed trade on the grounds that:

  – supplying the water would have a significant negative effect on other users;

  – it is inconsistent with the water management plan or, where no water management plan exists, the Act; or

  – the Commission is not able to supply the water due to the capabilities of existing physical infrastructure or water availability;

- require evidence that agreement has been obtained from anyone with a financial interest in the right.

The Council finds that Tasmanian arrangements, in terms of managing risks for market participants and third parties (including the environment), are sufficient so as not to provide an impediment to water maximising its contribution to national income and welfare.

Market choices

Within the irrigation schemes, the Rivers and Water Supply Commission approves the trades. There are no water exchanges, with water brokers only existing on an informal basis, mainly due to the lack of property rights (DPIWE 2001). Public standards on ethics for brokers and exchanges do not exist.

To facilitate trade, the Commission has indicated that they will maintain a record of people who wish to transfer their rights or purchase or lease additional rights. Further discussions and negotiations are the responsibility of the proponents.

The lack of a wide variety of choice through which to conduct trade is understandable given the limited nature of trade in Tasmania. The Council does not see that there are impediments to the establishment of new mechanisms. Therefore, as resources reach full allocation and trading becomes common, the variety of market mechanisms can be expected to increase.

Market information

The Water Availability in Tasmania report (DPIWE 2001a) found that the lack of market information was one of the most significant impediments to

efficient water trade because of the lack of access to quality information on market parameters.

Tasmanian officials have noted that to date there has been little in the way of Government promotion for water trading, even though this is seen as a key mechanism for the reallocation of water in capacity systems. This is largely because the conversion of water rights to a volumetric basis has not yet been completed. As a part of this conversion process, the Commission wrote to each of the 2500 licence holders in late 2000 to prioritise the conversion of licences for those landholders who wanted to transfer water rights in the 2000-01 irrigation season. This notified all licence holders in unregulated systems of the availability of water trade.

Officials also noted information about the availability of trade has been provided through other mechanisms including:

- consultation on the draft bill, including provisions for the transfer of water rights;
- trading rules in regulated irrigation districts;
- a record, maintained by staff of the Scheme districts, of potential buyers and sellers. This will facilitate the contact between buyers and sellers and encourage the development of trade in the districts; and
- a number of water brokers who have become established in areas of demand. These brokers have advocated the availability and benefit of transfers to right holders.

While there are strong concerns among States about the disclosure of price due to the 'thinness of the market', it is important that potential traders have sufficient information to encourage their participation. The advent of water exchanges has dramatically improved the availability of market information in other States. As well as providing trading services, exchanges provide a confidential source of information on prices and volumes traded. Tasmanian officials have confirmed that there is no data available on the value of trades. Price disclosure is not mandated in Tasmania, although the volume of trade is recorded. An exchange would be one mechanism to improve the availability of market information in Tasmania.

In terms of information about the state of the resource and its impact upon water rights, water management plans are required to be reviewed every five years. In addition, each year (and at other required times) a water entity must provide a written report to the minister on administration of the water management plan. This information should be sufficient for water users to gain an accurate picture of the allocation situation of local resources and an indication of the likelihood of alteration to their water right.

As markets develop in Tasmania, the Council will again look at the issue of the availability of market information to ensure that it does not pose an impediment to the efficient operation of the trading market. In particular, the

Council will look to see if Tasmania has considered mechanisms available to improve price disclosure.

Certainty, confidence and timeliness

Uncertainty in most jurisdictions results from the extent of overallocation of water resources and the potential for a reduction or clawback of water entitlements. In Tasmania, the National Land and Water Resources Audit found that there were no overallocated systems, although the Council is aware of problems in reaching full allocations over summer months (See section on allocations).

The Council notes that this issue may, in fact, be impeding trade. The Water Availability in Tasmania report noted that 'Policy and industry uncertainties act to curtail permanent trade in particular and exist for most irrigators' (DPIWE 2001a).

The process of developing Water Management Plans, as outlined in the Act, is a mechanism to address these issues. However, none of these water management plans are yet available. As such, the Council will reconsider this issue in future assessments to see if confidence is improved as a result of the implementation of the plans.

To improve the certainty and confidence of trading for third parties with a financial interest in a given right, Tasmania has made provision in the Act for a register of property rights and a requirement for the transferor to obtain consent of interested parties prior to the transfer being approved.

The Trading Rules in regulated irrigation areas also allow for the 'automatic' transfer of water entitlements when transferred at the same time as the land on which it is used. In addition, the rules provide for the rapid transfer, at no cost, of water for a period of seven days. A one-off extension of seven days can also be obtained in the same way.

The Council has little information on the timeliness of trade in Tasmania. However, it does note that transfers on unregulated systems requires approval by the Minister on a case by case basis. This could prove to be a time-consuming process and may lead to unnecessary delays in the transfer of water rights.

The Council will look to see that timeliness issues are not proving an impediment to efficient trade as the market further develops.

Capital efficiency

In examining the arrangements for capital efficiency in Tasmania, the Council notes that:

- leasing is permitted in regulated irrigation districts for any period of time. Upon the expiry of the lease, the right automatically reverts back to the original owner;

- in unregulated systems, allocations have been separated from access licences (and land) and commissional water rights are being converted into a volumetric entitlement to allow for free trade;

- any person or corporation may own an access licence, provided they meet the requirements of the licence outlined in the Act. This allows a lender to gain ownership of the allocation in case of loan default; and

- a register of water property rights exists, although it does not provide indefeasibility or surety of title, merely information on the right. Financial interests in the right may be noted, and the written permission of any person who has a noted interest in a water right is needed before the Commission can approve a transfer of that right.

The capital efficiency of water rights is limited by a requirement to possess a water licence to hold an allocation. While requirements to obtain such a licence are not onerous, there still remains a link between water and land in both regulated and unregulated systems. This may impact upon the entry and activities of agents, brokers, aggregators and speculators in the market.

In the long run, these groups may play an important role in the ongoing management of the market by assuming some of the risk and minimising price fluctuation within and between seasons. However, the Council recognises the widespread community concern with speculation in the water market and finds that this is an issue that may be addressed in time as markets further develop and communities gain more experience and confidence in the operation of the market.

The Council is satisfied that provisions for capital efficiency in Tasmania allow right holders to effectively manage their right as a capital asset.

Summary

Trading arrangements in Tasmania are in the early stages of development, particularly in terms of permanent trade.

In unregulated areas, water has been separated from land via the separation of allocations from licences. It is, however, essential to own a licence to own water. Water rights are well specified.

The Council also notes the restriction on permanent trade in unregulated systems until January 2003. While not an outright prohibition on permanent trade, the restriction does prevent trade until independent financial advice has been sought. Given the importance of a water right to the value of a

property, and the limited duration of this restriction, the Council does not find this to be a significant issue preventing trade.

In regulated systems, water has also been separated from land and can be freely traded between land within the districts, within environmental constraints set by legislation and local trading rules.

Trading rules have been developed for these regulated irrigation districts to allow for the permanent and temporary transfer of water rights. Of note in these rules is the limitation on water moving to non-agricultural uses. Designed specifically to prevent sub-division of productive properties and the establishment of rural-residential developments, this restriction may affect the potential of water to move to its highest value use and maximise its contribution to national income and welfare.

Market information is one area where further progress would facilitate trade in both the regulated and unregulated areas in Tasmania. Information on the availability and advantages of trading as well as broader market information on the value and quantum of trades would give water right holders further confidence to participate in the trading market. The Council supports the commitment by Tasmania to keep a register of potential buyers and sellers as one mechanism to encourage further market participation.

Assessment

The Council is satisfied that Tasmanian trading arrangements are consistent with the CoAG water agreement. As such, the Council finds that Tasmania has met water trading requirements for the 2001 assessment. However, the Council will revisit water trading issues in future assessments, particularly in relation to the introduction of water management plans.

Environment and water quality

Jurisdictions must have in place integrated resource management practices, including:

- demonstrated administrative arrangements and decision making processes to ensure an integrated approach to natural resource management and integrated catchment management;
- an integrated catchment approach to water resource management including consultation with local government and the wider community in individual catchments; and
- consideration of landcare practices to protect rivers with high environmental values (clauses 6a and b, and 8b and c).

Tasmania is implementing a resource management planning system. This will provide a statutory and administrative policy basis for integrated

resource management of land, water and air in Tasmania. The system applies to both State and local governments.

Tasmania is also implementing a number of programs to support and facilitate catchment based integrated natural resource management. Community-based catchment and regional natural resource management committees are developing catchment management plans and regional natural resource management strategies. This program is now being coordinated through a partnership program with local government.

Tasmanian arrangements

Integrated resource management

Tasmania's resource management planning system establishes a whole-of-government, industry and community approach to resource management and planning. The system is concerned with the use, development, conservation and protection of land, water and air.

Under the resource management planning system, strategic planning occurs in an integrated way at State, regional and local levels. The objectives of the system are to:

- promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity;
- provide for the fair, orderly and sustainable use and development of air, land and water;
- encourage public involvement in resource management and planning;
- facilitate economic development in accordance with the objectives set out above; and
- promote the sharing of responsibility for resource management and planning between the different spheres of government, the community and industry in the State.

Catchment management

Tasmania has a number of current programs to support and facilitate catchment management within the State. These include landcare, rivercare and bushcare program teams to assist groups with facilitation and technical issues associated with catchment management projects.

For the second tranche assessment, there were 12 catchment management groups in Tasmania. Catchment management plans were being prepared for four areas (Huon, Meander, Coal, and Mersey rivers).

Tasmania has advised that there is now a total of 28 catchment management and regional natural resource management groups operating in the State, with catchment and natural resource management plans and strategies at various stages of development and implementation. Natural resource management groups are responsible for strategic planning for land and water resource management in their region and the provision of integrated waterway and floodplain management. The State Government is now moving to improve coordination of this program through partnership agreements with local government, rather than through the State policy process as previously proposed.

It is yet to be determined how the water management plans will be associated with catchment management plans and regional natural resource management strategies. However, Tasmania expects that the accreditation process for catchment management plans to be established under the national action plan on salinity and water quality will include a requirement to take account of any relevant water management plan. Around one third of Tasmania will be subject to the national action plan.

Over the past 18 months, a number of property based landcare projects have been initiated to undertake works as specified in catchment plans. The projects involved fencing and rehabilitation/replanting of remnant areas of native and riparian vegetation and riverworks.

The Tasmanian Budget papers report that by mid 2001 there will be 36 Rivercare plans completed, 27 approved and a further 20 under development. In addition there are nine weed management plans in development. The Department of Primary Industries, Water and Environment has provided expertise and guidance in the development of these plans to ensure that they are consistent with the sustainable development criteria of the resource management planning system.

State natural resource management strategy

The resource management planning system framework provides for the making of State policies in accordance with the *State Policies and Projects Act 1993*.[9]

In the second tranche NCP assessment, Tasmania had proposed to develop a State policy on integrated catchment management under the *State Policies and Projects Act 1993*. Tasmania has advised that the development of this

[9] A State policy under this Act is binding on any person, State Government agency, public authority or planning authority.

policy is on hold pending a review of the future direction for State policies under this Act and Tasmania's proposed involvement with the national action plan for salinity and water quality.

Instead, the Government has initiated a State natural resource management strategy. The strategy will provide the overarching framework for public and private natural resource management activities at catchment, regional and bio-regional levels. An issues paper is to be released shortly. The strategy will be developed in full consultation with stakeholders and is expected to be finalised by November 2001.

Assessment

The Council was satisfied in the second tranche NCP assessment that integrated resource management practices were in place. The major development since the second tranche report has been the proposal to develop a State natural resource management strategy due for completion by end 2001. There has also been a growth in the number of catchment management and regional natural resource management groups operating in Tasmania engaged in the process of developing sub-catchment plans.

Tasmania continues to develop plans to provide strategic planning for land and water resource management in regions. Tasmania anticipates that these catchment management plans will be formally accredited as part of the national action plan for salinity and water quality.

The Council is satisfied that Tasmania has met its commitments and will review developments concerning the State Natural Resource Management Strategy at the next assessment.

National Water Quality Management Strategy

Jurisdictions agreed to support ANZECC and ARMCANZ in developing the National Water Quality Management Strategy, through the adoption of market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness.

Jurisdictions are to demonstrate a high level of political commitment and a jurisdictional response to ongoing implementation of the principles contained in the National Water Quality Management Strategy guidelines, including on-the-ground action to achieving the policy objectives (clauses 8b to d).

Tasmania continues to implement the National Water Quality Management Strategy through a State policy on water quality management (1997). This policy aims to achieve sustainable management of the waterways while providing for sustainable development. As outlined in the allocations section, the development of water management plans must be consistent with protected environmental values and water quality objectives under the State policy.

While slow to emerge as an issue salinity could become a major problem in Tasmania. The National Land and Water Resource Audit's Salinity 2000 assessment estimates that dryland salinity is placing 54 000 hectares of the State at risk and may cost farm industries $5.4 million a year. The audit also found that some groundwater bores and streams have excessive salinity levels. The area at risk is expected to rise to 94 000 hectares by 2050. The Derwent Valley, Midlands, North East, East Coast and Bass Strait Islands are the areas identified as most vulnerable to salinity (National Land and Water Resource Audit 2000).

Tasmanian arrangements

Implementation of the State policy on water quality management

The State Policy on Water Quality Management is a statutory policy to assist in the management of water resources, decisions on water quality, sewerage and drainage services, and the coordination of various strategies of government. It applies to both surface and groundwater.

The policy implements the objectives of the National Water Quality Management Strategy in Tasmania. In particular, the policy:

- closely follows the model set out in 'Policies and Principles', which is the key document in the national strategy, including the development of water quality objectives through a consultative approach;
- in dealing with point source pollution is based firmly on the model in the 'Policies and Principles' document;
- sets out strategies to deal with major sources of diffuse pollution in accordance with the approach recommended in the national strategy;
- adopts the waste minimisation hierarchy in the national strategy;
- addresses groundwater issues in accordance with the national strategy guidelines for groundwater protection in Australia; and
- adopts or refers to guidelines produced as part of the National Water Quality Management Strategy, for example, the Australian water quality guidelines and guidelines for urban stormwater management.

Other National Water Quality Management Strategy guidelines are expected to be applied in implementing other components of the State policy. Tasmania has recently developed the following draft guidelines under the policy based on national strategy modules:

- emission limit guidelines for sewage treatment plants that discharge pollutants into fresh and marine waters;

- wastewater management guidelines for meat premises;
- wastewater management guidelines for intensive animals industries; and
- environmental guidelines for the use of recycled water.

It is expected that the first three of the above guidelines for the management of point sources of pollution, will be endorsed by the Board of Environmental Management and Pollution Control in June 2001. Guidelines for the control of erosion and stormwater runoff from construction activities including roadworks, have recently been endorsed by the Board of Environmental Management and Pollution Control. Guidelines for effluent re-use are also nearing completion.

Guidelines and codes of practice for specific industry groups are currently being reviewed as required by the State policy.

Protected environmental values

The protected environmental value process is part of the State policy on water quality management — which was established and commenced before the Water Management Act was introduced. Protected environmental values are set for water quality under the State policy and are set using a community consultation process.

Tasmania has advised that protected environmental values under the policy have now been set for nearly three-quarters of the State's surface waters within several catchments across the State. The protected environmental values have been set on either a catchment basis or by municipal areas. The following table shows the progress achieved to date.

Table 9: Water bodies with completed protected environmental values

Water Bodies	*Council Municipal Area*
Blythe River Estuary, Minna Creek and Tip Creek	Burnie City Council
All water bodies in the Circular Head Municipality	Circular Head Council
All water bodies in the Waratah—Wynyard Municipality	Waratah—Wynyard Council
All water bodies in the West Coast Municipality including the Gordon and Pieman River Catchments	West Coast Council
Little Swanport River	Southern Midlands Council
Gordon River Catchment	Derwent Valley Council
Great Lake and Brumby Creek Catchments and Lower Macquarie and South Esk Rivers	Central Highlands, Northern Midlands, Meander Valley, West Tamar, Launceston City Council
Macquarie and South Esk River Catchments	Northern Midlands, Break O'Day, Central Highlands, Dorset Council
Mersey Catchment	Devonport, Latrobe, Kentish, Central Highlands, Meander Valley

Water Bodies	*Council Municipal Area*
Penguin Sewage Treatment Plant, Preservation Bay – Westcombe Beach	Central Coast Council
Tas Alkaloids, Quamby Brook between Railway Bridge and confluence with Meander River	Meander Valley Council
All water bodies in the Southern Midlands Municipality (excluding Little Swanport River Catchment – see above)	Southern Midlands Council

Source: Tasmania 2001 p.53

Table 10 shows those water bodies where protected environmental values are near completion. These values will be completed for all of Tasmania by December 2001. Protected environmental values are yet to be set for groundwater and coastal waters.

Table 10: Water bodies with protected environmental values process underway

Water Bodies	*Council Municipal Area*
Meander	Meander Valley, West Tamar, Northern Midlands, Central Highlands
North East	Break O'Day, Dorset
River Derwent Estuary	Derwent Valley, Brighton, Clarence, Glenorchy City, Hobart City, Kingborough
Kingborough Catchments and D'Entrecasteaux Channel	Kingborough, Huon Valley, Hobart City
Huon River	Huon Valley, Kingborough, Derwent Valley, Glenorchy
Tamar Estuary and North Esk	Launceston City, West Tamar, Georgetown, Northern Midlands, Break O'Day, Meander, Dorset, Latrobe
Upper River Derwent	Central Highlands, Derwent Valley, Meander

Source: Tasmania 2001 p.54

The following process is being used to set protected environmental values in association with regional planning authorities. A workshop is held with the decision-making authorities. Those attending this workshop include council administrators, Department of Primary Industries, Water and Environment regional water management officers, regional park planners, and marine farm planners where applicable. The Department prepared a public discussion paper. It outlined the water reform process, summarised the state of regional water resources and provided a brief summary of the local water management issues, explained the importance of water quality and water quantity values and proposes a range of protected environmental values. Endorsement was sought from the Environmental Management and Pollution Control Board, councils and/or the Director of Parks for the discussion paper to be released for public consultation.

Community and industry representatives are invited to a workshop to discuss the proposed protected environmental values and to establish a list of regional community water values. Feedback is provided to all those people invited to the workshop who are given two weeks to provide any further information.

Public meetings are then held to allow the whole community to input to the process. Between two weeks and a month is allocated after the public meeting for further submissions.

The board, councils and/or Director of Parks then endorses the protected environmental values. The final protected environmental values are shown in draft local government planning schemes, park plans or marine farm plans

The protected environmental values setting process takes, at a minimum, about three months. The actual timing depends on the level of consultation sought and the resources that can be put into the process from the Department of Primary Industries, Water and Environment and the regional management authorities.

Water quality objectives

The report by the Department of Primary Industries, Water and Environment on water availability in Tasmania provides a discussion on water quality issues in Tasmania. In particular, the report provides the following:

> *Tasmania's water is considered generally of good quality. However there are some areas where associated mining, agricultural (eg fertiliser effluent, drainage, dairy runoff, impact of stock on river systems) or forestry activities can result in further stress (SDAC 1996). Acid mine drainage is a problem in some rivers on the west coast and may impact on water availability for some development opportunities in those regions. The impacts of acid mine drainage are evident through fish kills and have the potential to affect downstream industries reliant on water such as aquaculture and be a disincentive to start an industry in the area.*
>
> *There are a number of areas in Tasmania where water quality may limit the potential for irrigation development. These include salinity and nutrient issues. Salinity is an issue for the lower Coal River catchment and Jordan River and Welcome River where dissolved oxygen is also an issue. Significant nutrient loads exist in the Duck, Montague, Meander and Great Forester Rivers (Berry 2001). On King Island, nutrients and salinity levels are of concern as well as acid sulphate soils. Acid sulphate soils are an emerging issue and may further reduce water quality in the far North-west and King Island areas if not managed correctly*…(DPIWE 2001a, p.33)

In September 2000, a discussion paper for setting water quality objectives for catchments across Tasmania was released. The process is to be based on the scientific approach outlined in the 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality', a module of the National Water Quality Management Strategy. The consultation process has raised a number of issues that are currently being addressed.

Tasmania proposes to set water quality objectives on a catchment or regional basis. Key water quality indicators will be used to determine water quality guidelines for all protected environmental values. Water quality objectives will be set on an 'as needs basis' to assist in controlling emissions from heavy industry. Tasmania is in the development stage of setting these objectives. In the Mersey catchment, some objectives have been developed as part of a case study to help determine methodology.

Water quality monitoring

Tasmania has advised that a State water quality monitoring strategy is nearing completion and will be implemented commencing January 2002. The strategy will set a framework for water quality monitoring across the State and will link to the water quality objectives.

The Department of Primary Industries, Water and Environment is currently operating a network of continuous monitoring stations linked to stream gauging stations at 11 sites around Tasmania. The data from these sites has been used to make estimates of loads of nutrients leaving catchments. The stations monitor conductivity, temperature and turbidity.

The State water quality monitoring strategy will involve other stream gauging stations around the State, particularly those managed by Hydro Tasmania, sites managed by councils and, where possible, private industry. Funding will also be sought from the State and local governments and industry to establish further monitoring stations where these are needed to complete the baseline system.

State of rivers reports

The Department of Primary Industries, Water and Environment publishes catchment-based strategic State of Rivers reports which provide information on the current status of water quality, assessments of aquatic health, and river condition in catchments. The reports provide a snapshot of current conditions but do not allow the identification of trends in natural resource degradation. The reports are expected to be completed once every ten years. In the report by the Department of Primary Industries, Water and Environment on water availability in Tasmania, seven regions are shown as having state of rivers reports completed with a further six underway.

In the second tranche NCP assessment, state of rivers reports for two river basins had been prepared and a further four were underway. Since the second tranche assessment, Tasmania has advised state of rivers reports for the Ringarooma, Great Forester, Brid and Pipers river catchments were completed during 1999-2000. With assistance under the National Heritage Trust, monitoring is now occurring on a further six catchments around the State. These are expected to be completed by January 2002.

Landcare practices

As reported in the second tranche NCP assessment, the State policy on water quality management contains provisions aimed at promoting landcare practices while protecting rivers and streams. This includes provisions for dealing with the control of erosion and stormwater runoff from land disturbance, agricultural runoff and forestry operations to control diffuse runoff.

The State policy refers to the use of the planning system and the development of a code of practice to reduce the effects of development activities on waterways. Best practice guidelines for control of erosion and stormwater runoff from land disturbance have been developed by the Greater Hobart Regional Councils, and Launceston City Council. These were approved by the Board of Environmental Management and Pollution Control in January 2001 as describing appropriate best practice environmental management to minimise contaminated runoff from individual construction sites, subdivisions, civil infrastructure and roadworks. They also include measures for the protection of streamside vegetation.

For agricultural runoff, the State Policy requires the development of a code of practice or guidelines to reduce the impact on water quality of stormwater from agricultural land. The Department of Primary Industries, Water and Environment and the Tasmanian Farmers and Graziers Association have commenced a National Heritage Trust project titled 'Guidelines for Good Agricultural Land Practice in Tasmania'. These guidelines will assist in improving soil, water and vegetation management and in reducing the impacts of agriculture on Tasmania's land and water resources. Draft guidelines are expected to be finalised by November 2001.

Salinity

Tasmania is developing a broad strategy framework for managing salinity which will identify those areas requiring local strategies. Most areas requiring local strategies and salinity targets will be addressed in the national action plan for salinity and water quality.

Drinking water

At a minimum the 1987 National Health and Medical Research Council guidelines are used for setting drinking water quality guidelines.

Wastewater discharge

There are several policies in place to actively promote the re-use of effluent and wastewater. For the period 1998-2001, the Commonwealth Government has allocated $5.7 million from the Natural Heritage Trust to improve sewage lagoon treatment and implement re-use programs in Tasmania. Funding is

available for capital works upgrades for sewage lagoons currently discharging into inland waters and the sea, and for re-use where this is feasible. Funding for 12 sewage lagoon upgrades and 11 effluent re-use schemes has been approved with a further 11 sewage lagoon upgrades and 6 effluent re-use schemes expected by the end of 2001.

Progress has also been made in relation to stormwater management. A draft five-year stormwater management strategy and a model stormwater management plan have recently been completed. Public consultation has occurred on these and both the strategy and the model have been submitted to the Local Government Association of Tasmania for final review prior to government approval and implementation which is expected by end 2001.

State algal management strategy

The Department of Primary Industries, Water and Environment has also developed a State algal management strategy which outlines procedures for monitoring and managing blue-green algal blooms in freshwater storages and provides links between the Strategy and national protocols. Tasmania has developed a two level approach to algal bloom management for:

- significant storages, the Department has involved operators in the development of *Guidelines for the Management of Blooms of Blue-Green Algae in Freshwaters in Tasmania* which are intended to guide management decisions; and

- small instream storages, the Department has adopted the policy of requiring each owner to act in compliance with the *Algal Management Plan for Instream Storages* as a condition of a water licence related to dams.

National Land and Water Resource Audit

The National Land and Water Resource Audit's Australian Water Resources Assessment 2000 reported that water quality datasets for Tasmania did not meet minimum requirements in terms of sampling frequency and length of monitoring recorded to enable a comparison of surface water quality against the 1992 ANZECC *Australian Water Quality Guidelines for Fresh and Marine Waters* standards.

WSAA facts

For 1999-2000, Hobart Water had 96.2 per cent compliance with the 1996 Australian drinking water guidelines for bacteriological standards and an average 89.3 per cent compliance with physical-chemical guidelines for 1999-2000 (WSAA 2000).

Assessment

Tasmania continues to make progress in implementing a further four National Water Quality Management Strategy modules through the State policy on water quality management. Tasmania is also in the process of finalising a State water quality monitoring strategy, landcare guidelines, and are continuing to further the state of rivers reporting. Tasmania is also actively investing in effluent and wastewater re-use schemes.

The Council is of the view that Tasmania continues to meet its commitments for this assessment.

Public consultation and education

Jurisdictions must have consulted on the significant CoAG reforms (especially water pricing and cost recovery for urban and rural services, water allocations and trade in water entitlements). Education programs related to the benefits of reform should be developed. (clauses 7a to e).

Tasmanian arrangements

Public consultation

Since the second tranche assessment there has been extensive consultation with stakeholders and the community in the following reform initiatives:

- passage of the *Water Management Act 1999* where there was extensive consultation included 145 meetings with stakeholders, 33 public meetings at venues around Tasmania, the release of 30000 information brochures and 350 full information kits and the receipt of 82 written submissions. There were three rounds of public consultation on the draft legislation; and

- the new licence fee structure established by the Water Management Regulations in January 2000. In July 1999, the Department of Primary Industries, Water and Environment released a discussion paper to around 3000 stakeholders seeking comment on a proposed new licence fee structure. The fee structure was modified in the light of comments received from stakeholders.

Extensive public consultation continues to be a feature of the implementation of natural resource management programs. The development and implementation of environmental flows and water management plans are subject to ongoing consultation of all relevant stakeholders including

government agencies, local government, licensees, holders of prior rights, the Director of Environmental Management, and the Director of Public Health.

Public consultation has also been a crucial component of the process for setting protected environmental values and the development of water management plans. Up to March 2001, more than 35 public and stakeholder meetings have been held Statewide.

The Premier announced the water development plan for Tasmania in September 2000, and a scoping document was publicly released in December 2000. In addition, the public consultation process has thus far included:

- three newsletters;
- a public call for irrigation scheme proposals, followed by an initial report on the irrigation schemes project;
- a report on water availability in Tasmania, and a water availability workshop; and
- a local government stakeholders workshop.

Tasmania has also released public discussion papers on proposed environmental management goals for Tasmanian surface waters and draft guidelines produced under the State water management strategy for consultation.

Public education

Community access to water information

In May 1999, the Department of Primary Industries, Water and Environment initiated the *Community Access to Water Information* project, which aims to improve community awareness and understanding about inland water and its management by bringing Tasmanian water information together into a single comprehensive, accessible and user-friendly package.

The key objectives of the project are to achieve better promotion of water management activities, provide access to relevant on-ground management information, and to facilitate improved water communications across all sectors through an internet website. The proposed website currently contains over 202 documents about water information and a further 203 listings about other water projects. The website is scheduled to be launched in July 2001 and will be available to the public through a link to the Department's website.

State of rivers reports

The results of the Department's water quality and environmental monitoring programs from State of Rivers Reports are made publicly available. The Minister releases the reports with a media release and the reports are available on the Department's website, from Service Tasmania offices, in libraries, and local council offices. This information gives local communities a snapshot of the condition of water resources.

Education programs for water services

Under the strategic and operational plan requirements of the Local Government Act, councils are required to undertake public consultation processes in relation to water service delivery issues. This includes pricing and operational matters for urban water schemes to be included in council operational plans which are subject to public consultation.

Other programs

Tasmania continues to implement a range of other programs aimed at water conservation. These include National Water Week, the Waterwise Program and Waterwatch. Waterwatch continues to be the primary mechanism for water education in Tasmania. Waterwatch has expanded to 579 sites where water quality parameters are measured.

In partnership with Government, water businesses and conservation groups have launched a statewide water conservation awareness campaign. Water Week involves media releases and events, field days, competitions and printed brochures on water education and conservation. This is the major program for consumer education in water conservation in Tasmania.

The State Government has funded an irrigation partnership program that includes an education and training package for Tasmanian irrigators. This course addresses best practice irrigation and water management planning. A pilot version of the course was delivered in the 2000-01 summer irrigation season. The course is currently under further development and delivery will begin before the 2001-02 irrigation season.

Assessment

Tasmania has demonstrated active public consultation in such areas as the passage of the Water Management Act 1999, the new licence fee structure, the setting of environmental flows, and the development of water management plans. Tasmania's community access to water information website, as well as ongoing programs, demonstrate Tasmania's commitment to public education. The Council is satisfied Tasmania has met this reform commitment.

Attachment 1: Environmental flows/water for ecosystems impact matrix

Catchment	*Water Development Priority*	*Water Quality Priority*	*Water Use Priority*	*Instream Ecology Priority*	*Estuary Consvn Status*	*Industry Priorities*	*NCC Priority*	*NCC TIMELINE*	*Mar 2001 Work Status*
Brid R	H	3	H	5	Degraded	IRRIGATION	1	Aug-99	Completed.
Elizabeth R	H	1	H	5	Critical	HEC	1	Jul-99	Completed.
Esperance R	L	4	H	3	Moderate	INDUSTRY	1		Completed.
Gt Forester R	H	3	H	5	Degraded	IRRIGATION	1	Nov-99	Completed.
Liffey R	H	1	H	5	Critical	HEC	1	Aug-99	Completed.
Macquarie R	H	1	H	5	Critical	HEC	1	Dec-99	Completed.
Meander R	H		H	5	Critical	HEC	1		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		1	Aug-99	Completed.
Tooms R	H	1	H	5	Critical	HEC	1	Jul-99	Completed.
Upper Mersey R	H	5	H	5	Badly Degraded	HEC	1		Completed.
Upper Ringarooma R	H	4	M	6	High	IRRIGATION	1	Aug-99	Completed.
South Esk R	H	1	H	5	Critical	HEC	1		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.
George R	L	3	L	5	Degraded/Moderate		2	Mar-00	Completed.

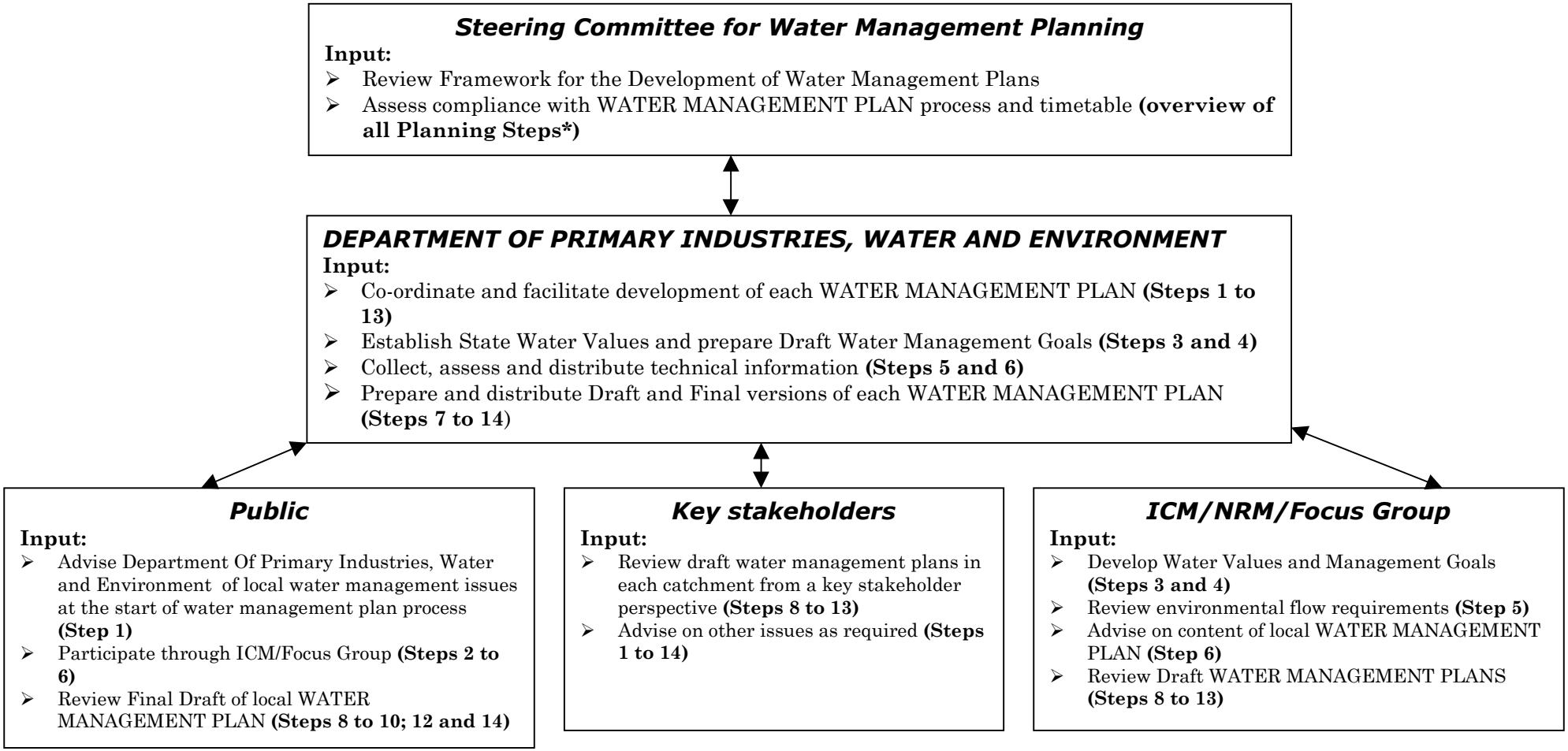
Catchment	*Water Development Priority*	*Water Quality Priority*	*Water Use Priority*	*Instream Ecology Priority*	*Estuary Consvn Status*	*Industry Priorities*	*NCC Priority*	*NCC TIMELINE*	*Mar 2001 Work Status*
Gt Musselroe R	H		L	5	Moderate	IRRIGATION	2	Mar-00	Completed.
Lower Mersey R	H	5	H	5	Badly Degraded	HEC	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	Part complete.
Browns	L	4	M	5	Moderate		3	Dec-01	Part complete.
Cam R	H	2	M	1	Badly Degraded	WSUPPLY	3	Dec-01	Part complete.
Coal R	H	6	H	1	Degraded	INDUSTRY	3	Jun-01	Field work completed.
Emu R	H	2	M	1	Badly Degraded	INDUSTRY	3	Dec-01	Part complete.
Leven R	H	5	L	1	Badly Degraded	IRRIGATION	3	Dec-01	Part complete.
Lt Swanport R	H	6	M	2	Moderate	IRRIGATION	3	Jun-01	Field and lab work completed.
Montagu R	H	2	M	1	Moderate	IRRIGATION	3	Dec-01	Part complete.
NW Bay Rvt	H		H	2	Badly Degraded	IRRIGATION	3	Mar-01	Field and lab work completed.
Rubicon R	H	5	H	5	Degraded	IRRIGATION	3	Dec-01	
Swan	H		H	5	High		3	Jun-01	Field work completed.
Welcome R	H	2	M	1	Moderate		3	Dec-01	
Derwent R	M	6	H	5	Moderate	HEC	4	Jun-06	Some field work

Catchment	*Water Development Priority*	*Water Quality Priority*	*Water Use Priority*	*Instream Ecology Priority*	*Estuary Consvn Status*	*Industry Priorities*	*NCC Priority*	*NCC TIMELINE*	*Mar 2001 Work Status*
									completed.
Forth R	H	5	L	5	Degraded	HEC	4	Jun-06	
Gordon R	L	8	H	5	Moderate	BASSLINK	4	Jun-03	Part Completed.
Jordan R.	H		H	1	Moderate	IRRIGATION	4	Dec-02	Novel approach required.
Lake R	H		H	1	Critical	HEC	4	Jun-04	Part complete.
Ouse R	H	6	H	5	Moderate	HEC	4	Jun-06	Some field work completed.
Apsley R	L	6	M	2	High	IRRIGATION	n/a	n/a	
Arthur R	L	7	L	5	High		n/a	n/a	
Black R	M		L	2	Critical	IRRIGATION	n/a	n/a	
Claytons Rvt	H		H	5	Degraded	IRRIGATION	n/a	n/a	Completed.
Curries R	M		L	5	Degraded	WSUPPLY	n/a	n/a	
Davey R	L	8	L	5	Critical	n/a WHA	n/a	n/a	
Dee R	L		L	5	Moderate	HEC	n/a	n/a	
Denison R	L	8	L	5	Moderate	n/a WHA	n/a	n/a	
Detention R	M		L	2	Moderate	INDUSTRY	n/a	n/a	
Flinders Island	L	3	L	5	High		n/a	n/a	
Floretine R	M	6	L	5	Moderate	HEC	n/a	n/a	
Flowerdale R	M	2	L	2	Badly Degraded	IRRIGATION	n/a	n/a	
Franklin R	L	8	L	5	Moderate	n/a WHA	n/a	n/a	
Hellyer R	H	7	L	5	High	INDUSTRY	n/a	n/a	
Henty R	L	7	L	5	High	HEC	n/a	n/a	

Catchment	*Water Development Priority*	*Water Quality Priority*	*Water Use Priority*	*Instream Ecology Priority*	*Estuary Consvn Status*	*Industry Priorities*	*NCC Priority*	*NCC TIMELINE*	*Mar 2001 Work Status*
Huon R.	M	4	L	2	Moderate	INDUSTRY	n/a	n/a	
Huskisson R	L	7	L	5	Moderate		n/a	n/a	
Inglis R	M	2	L	1	Badly Degraded	IRRIGATION	n/a	n/a	
Kermandie R	L	4	L	5	Moderate	INDUSTRY	n/a	n/a	
King Island	L	2	M	5	Moderate, Yarra Degraded		n/a	n/a	
King River	L		L	5	Degraded	BASSLINK	n/a	n/a	Part completed.
Lt Henty R	L	7	L	5	Moderate		n/a	n/a	
Lune R	L		L	5	Moderate		n/a	n/a	
Lyons R	L		L	5	High		n/a	n/a	
MacClaines Ck	L		L	3	Degraded	WSUPPLY	n/a	n/a	
MacIntosh R	L		L	5	Moderate	HEC	n/a	n/a	
Meredith R	M	6	M	3	Degraded	IRRIGATION	n/a	n/a	
Murchison R	L		L	5	Moderate	HEC	n/a	n/a	
New River	L		L	5	Critical		n/a	n/a	
Nile R	H		M	2	Critical	HEC	n/a	n/a	
Nive R	L		L	5	Moderate	HEC	n/a	n/a	
Orielton Rvt	M		M	3	Degraded	IRRIGATION	n/a	n/a	
Picton R	L	4	L	4	Moderate	n/a WHA	n/a	n/a	
Pieman R	L	7	L	5	Moderate	HEC	n/a	n/a	
Pipers Brook	H		M	5	Moderate	IRRIGATION	n/a	n/a	
Plenty R	H		M	2	Moderate	IRRIGATION	n/a	n/a	
Prosser R	L	6	L	2	Degraded	WSUPPLY	n/a	n/a	

Catchment	*Water Development Priority*	*Water Quality Priority*	*Water Use Priority*	*Instream Ecology Priority*	*Estuary Consvn Status*	*Industry Priorities*	*NCC Priority*	*NCC TIMELINE*	*Mar 2001 Work Status*
Quamby Brook	H		M	5	Critical	HEC	n/a	n/a	
Rapid R	L		L	5	High		n/a	n/a	
Russell R	M		M	5	Moderate	INDUSTRY	n/a	n/a	
Samphire Ck	L	3	L	5	Moderate	IRRIGATION	n/a	n/a	
Sandspit R	L		L	3	n/a		n/a	n/a	
Savage R	H	7	L	5	Moderate	INDUSTRY	n/a	n/a	
Scamander R	L	3	L	2	Degraded		n/a	n/a	
Shannon R	H		M	5	Moderate	HEC	n/a	n/a	
Snug	L	4	L	5	Moderate		n/a	n/a	
South East	L		M	5	Moderate		n/a	n/a	
Southern Rivers	L		L	5	Louisa River Critical, Cockle Creek Moderate, Remainder High		n/a	n/a	
St Pauls R	H	1	M	3	Critical	HEC	n/a	n/a	Part complete.
Stanley R	L		L	5	Moderate	n/a WHA	n/a	n/a	
SW Rivers	L		L	5	Mulcahy High, Giblin High, Lewis High, Mainwaring High, Spero High, Hibbs Lagoon High	n/a WHA	n/a	n/a	

Attachment 2: Water management planning – stakeholders



*As per Planning and Consultation Process.

Appendix A: 2001 assessment framework

Note: originally released in February 2001

Water reform highlights the multifaceted nature of NCP. The reform package put in place by CoAG in 1994 encompasses urban and rural water and wastewater industries and includes economic, environmental and social objectives. The reform program is aimed at improving the efficiency and effectiveness of water service providers and instituting water management planning such that the effect of all water use (by agriculture, industry, households and the environment) is taken into account.

Significant second tranche reform matters included: urban water pricing; approaches to determining the economic viability and ecological sustainability of new investment proposals; timetables for providing environmental allocations in stressed river systems; and frameworks to allow for appropriate institutional structures and the allocation and trading of water.

The third tranche program extends these commitments. It focuses on the 'on-the-ground' outcomes of the reform process in such areas as rural water pricing and cost recovery, environmental allocations or provisions for the environment, water quality issues, trading arrangements and further institutional reforms.

The Council's second tranche assessment for water reform focused on the establishment of the legislative systems and structures to deliver the CoAG water reforms. A key focus of the third tranche and future assessments will be seeking information from jurisdictions that the reforms, structures and systems are generating real benefits. The 1994 CoAG strategic water reform framework (the CoAG Framework) and related documents subsequently endorsed by CoAG provide the basis for the Council's assessments of water reform progress. The CoAG documents provide generally very broad descriptions of the water reform obligations. Because of this, the third tranche framework developed by the Council provides more detailed explanation and interpretation of the water reform obligations. The framework does not redefine the commitments determined by CoAG, but aims to:

- provide a clear, transparent basis for assessment particularly in relation to matters not considered in previous assessments;
- identify the type of information that jurisdictions should provide to demonstrate compliance; and

- provide a basis for early identification and bilateral discussion of areas where achieving reform outcomes is proving difficult.

The Council's interpretation is based on the experience of earlier assessments, discussions with States and Territories and other stakeholders, and other work by the Council and other relevant organisations.

Jurisdictions have also provided input into the material presented in this chapter. The comments made by governments ranged from the need to be more specific in some areas on how the NCC might assess an item, to the view that the approach in areas is too prescriptive. The Council has sought to accommodate specific comments wherever possible.

Jurisdiction-specific matters arising from the CoAG Strategic Framework

The Council recognises that the reforms may be applied in different ways depending upon the specific circumstances faced by jurisdictions. For example, effective resource management is important for all jurisdictions but the manner in which it is applied may vary according to a range of factors including the level and number of stressed river systems within the jurisdiction. Also, some reforms may not be relevant for some jurisdictions. For example, the ACT does not have a rural water sector and hence these reforms are not required.

In the same way it conducted its second tranche assessments, in the lead up to the third tranche water assessment the Council will hold bilateral discussions on jurisdiction-specific matters and any differences in interpretations relevant to the implementation of the 1994 Strategic Framework. Any remaining concerns can be dealt with through bilateral discussions.

Further NCC Background Papers on Aspects of CoAG Water Reforms

In addition to the guidance on each reform commitment provided in this framework, the Council is separately releasing several additional background papers providing more detailed discussion on a number of issues covered by this framework.

These papers provide background information on the rationale underlying some of the Council's interpretations of the CoAG water reform commitments in a number of *hot spot* areas. However, these papers are provided as background material for reference by jurisdictions and interested parties. They do not form part of this assessment framework.

The Papers have been provided to the Commonwealth and all States and Territories and will be available shortly after the release of the third tranche assessment framework. Copies of the papers will be available from the water section of the Council's website at www.ncc.gov.au.

The papers are listed in Box A.1.

Box A.1: Background information papers on water reform commitments

- **Rural water pricing**. This paper covers full cost recovery in the rural sector including CSOs and positive rates of return.
- **New investment in rural water infrastructure**. This paper discusses a methodology to assess the economic viability and ecological sustainability of new investments in this area.
- **Institutional reform issues in the water industry**. This paper discusses why regulation is important and examines the potential for conflicts of interest between regulation and service provision and arrangements to deal with these.
- **Environmental requirements of the CoAG Water Reforms** (paper prepared with the assistance of Environment Australia). This paper outlines the national agreements on the environment that may be useful as a guide in reporting progress against the environmental requirements of the water framework.
- **Implementing the National Water Quality Management Strategy** (paper prepared by Environment Australia and the Department of Agriculture Fisheries and Forestry Australia in consultation with State and Territory government agencies). The Commonwealth, after consultation with States and Territories, has proposed that implementation of the guidelines should be assessed through a two yearly review process. This paper provides a list of the component modules of the National Water Quality Management Strategy (NWQMS) guidelines and their current status. The Council will be looking to jurisdictions to show how the guideline principles have been adopted in the third tranche and subsequent assessments.
- **Defining water property rights.** This paper will discuss the specification of water property rights so as to promote efficient and sustainable investment and trade.
- **Water reform and legislation review.** This paper will outline the status of legislation reviews of relevant water legislation for each jurisdiction based on a stocktake report conducted by Marsden Jacob consultants.

The 1994 CoAG Strategic Framework

Reform commitment: pricing and cost recovery

In relation to pricing:

3(a) in general –

(i) to the adoption of pricing regimes based on the principles of consumption-based pricing, full-cost recovery and desirably the removal of cross-subsides which are not consistent with efficient and effective service, use and provision. Where cross-subsides continue to exist, they be made transparent,

Queensland, South Australia and Tasmania endorsed these pricing principles but have concerns on the detail of the recommendations;

(ii) that where service deliverers are required to provide water services to classes of customer at less than full cost, the cost of this be fully disclosed and ideally be paid to the service deliverer as a community service obligation (CSO);

3(b) urban water services –

(i) to the adoption by no later than 1998 of charging arrangements for water services comprising an access or connection component together with an additional component or components to reflect usage where this is cost-effective;

(ii) that in order to assist jurisdictions to adopt the aforementioned pricing arrangements, an expert group, on which all jurisdictions are to be represented, report to CoAG at its first meeting in 1995 on asset valuation methods and cost-recovery definitions; and

(iii) that supplying organisations, where they are publicly owned, aiming to earn a real rate of return on the written-down replacement cost of their assets, commensurate with the equity arrangements of their public ownership;

3(c) metropolitan bulk-water suppliers –

(i) to charging on a volumetric basis to recover all costs and earn a positive real rate of return on the written-down replacement cost of their assets;

3(d) rural water supply –

(i) that where charges do not currently fully cover the costs of supplying water to users, agree that charges and costs be progressively reviewed so that no later than 2001 they comply with the principle of full-cost recovery with any subsidies made transparent consistent with 3(a)(ii) above;

(ii) to achieve positive real rates of return on the written-down replacement costs of assets in rural water supply by 2001, wherever practicable;

(iii) that future investment in new schemes or extensions to existing schemes be undertaken only after appraisal indicates it is economically viable and ecologically sustainable;

(iv) where trading in water could occur across State borders, that pricing and asset valuation arrangements be consistent;

(v) where it is not currently the case, to the setting aside of funds for future asset refurbishment and/or upgrading of government-supplied water infrastructure; and

(vi) in the case of the Murray-Darling Basin Commission, to the Murray-Darling Basin Ministerial Council 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;

3(e) groundwater –

(i) that management arrangements relating to groundwater be considered by Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) by early 1995 and advice from such consideration be provided to individual jurisdictions and the report be provided to CoAG;

NCC interpretation and benchmarks for third tranche

Consumption-based pricing (clauses 3(a), 3(b) and 3(c))

Governments have committed to the principle of consumption-based pricing. For urban water providers using surface or groundwater, two-part tariffs (comprising a fixed access component and a volumetric cost component) are to be introduced where cost effective.

Most governments have made progress against commitments for urban water providers to implement two-part tariffs where cost effective. Where the deadline was not achieved at the time of the second tranche assessment, the

Council in its third tranche assessment will look for substantial subsequent progress.

The third tranche assessment will look for assessments of the cost effectiveness of two-part tariffs, to be completed for service providers with greater than 1000 connections. Jurisdictions are asked to provide copies of any reviews which show that implementation is not cost effective, particularly where this involves large service providers.

Where these assessments show two-part tariffs to be cost effective, the Council is looking for jurisdictions to commit to timely implementation. A strong net public benefit justification will need to be provided where implementation is to be phased beyond 2001.

Metropolitan bulk water suppliers should establish internal and external charges that are volumetrically based or are comprised of a two-part tariff with an emphasis on the volumetric component. Metropolitan wastewater charges should reflect the level of services received (volume and pollutant load) where practicable (for example, through effective trade waste charges). Similarly, the Council supports rural water prices including an appropriate volumetric component wherever practicable.

Ideally, all free water allowances should be removed, as these can lead to cross-subsidisation, inhibit incentives for economical water use and undermine the principle of consumption-based pricing. In any instances where low level free water allowances are retained or are to be phased out over time, jurisdictions should provide evidence that a significant proportion of customers and water supplied still face a strong volumetric signal.

Charges based on property values do not necessarily reflect cost of services provided to different customer classes. Where property values are used the Council will look to ensure that they do not undermine the principle of consumption-based pricing.

Full cost recovery – in general (clauses 3(a)(i), 3(b)(iii) and 3(c)(i) 3(d)(i), 3(d)(ii), 3(d)(v) and 3(d)(vi))

Compliance with the CoAG pricing guidelines developed through the Standing Committee on Agriculture and Resource Management (SCARM) Taskforce on CoAG Water Reform and endorsed by ARMCANZ and Senior Officials (see Box A.2) will form the basis of the Council's assessment of progress against CoAG commitments in this area.

Jurisdictions are asked to provide information on the degree to which each aspect of the CoAG guidelines has been met. This should involve, among other things, information on methodologies for assets valuation and provision for asset consumption, as well as information on the treatment of taxes and tax-equivalent regimes (TERs), externalities, dividends and return on capital. Information should be provided on water and wastewater services separately.

Box A.2: Guidelines for the application of Section 3 of the Strategic Framework and Related Recommendations in Section 12 of the Expert Group

1. Prices will be set by the nominated jurisdictional regulators (or equivalent) who, in examining full cost recovery as an input to price determinations, should have regard to the principles set out below.

2. The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.

3. An annuity approach should be used to determine the medium to long term cash requirements for asset replacement/refurbishment where it is desired that the service delivery capacity be maintained.

4. To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or TERs [tax equivalent regime], provision for the cost of asset consumption and cost of capital, the latter being calculated using a WACC [weighted average cost of capital].

5. To be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or TERs (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement (as noted in (3) above). Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.

6. In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level.

7. In determining prices, transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, and tax equivalent regimes.

Source: NCC (1998)

Jurisdictions will need to demonstrate that urban and non-metropolitan urban (NMU) water and wastewater providers are recovering costs consistent with the agreed guidelines and CoAG commitments. For vertically integrated providers, processes should be in place to establish the contribution to total cost of major functional areas such as headworks, bulk water, reticulation and retail services.

In regard to rural water pricing[1], consistent with the outcomes of the 14 January 1999 tripartite meeting,[2] the Council will assess jurisdictions as having complied with the pricing requirements where jurisdictions:

[1] The Council has defined this to include all water supply services other than those supplied to urban or non-major customers.

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

In applying the outcomes of the tripartite meeting to rural water providers, the Council will look for a substantial proportion of schemes to be recovering at least the lower band of the agreed guidelines. Consistent with CoAG commitments, the Council will look for schemes to, wherever practicable, be earning a positive rate of return on assets.

As with its assessment of urban water providers, the Council will look for rural service providers to establish an annuity for upgrading or refurbishing water supply infrastructure but will also accept other approaches where consistent with the objectives of this aspect of the CoAG Framework.

The Council will look for a sound public benefit justification for those schemes that are unlikely to attain the lower bound even in the long run. The Council will also look for the number and materiality of these schemes to be small.

The CoAG water pricing principles call for regulators to take into account externalities in the setting of prices. The Council would consider a proxy for environmental externalities as the costs to water agencies of mitigating environmental problems. While the approach is not ideal, it is the best the Council can do at this stage of the reform process given the embryonic nature of mechanisms for addressing externalities including problems in trying to identify, quantify and attribute externality costs into individual prices.[3]

Cross-subsidies (clause 3(a)(i))

Clause 3(a)(i) of the CoAG Framework states that cross-subsidies should be transparently reported and ideally removed where they are not consistent

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2 In January 1999, a tripartite meeting was held between representatives from the NCC, the High Level Steering Group on Water Reform (augmented with representatives from ARMCANZ and ANZECC) and the Committee on Regulatory Reform to discuss concerns surrounding the implementation of the CoAG water reform framework. The recommendations arising from the meeting were subsequently endorsed by CoAG.

3 The reality is there will be environmental costs that will not be reflected in pricing. Of course, another way of approaching the problem is for governments to establish some form of property rights over the environment and establish environmental allocations or contingencies.

with efficient service provision and use. In response to the 14 January 1999 tripartite meeting, governments subsequently agreed that:

> *In making its assessment the NCC shall not seek to make its own assessment of the adequacy of the justification of any individual CSOs or cross-subsidies but jurisdictions will provide explanations of the intent of the CSOs and cross-subsidies and the NCC will examine how in totality they do not undermine the overall policy objectives of the strategic framework for the efficient and sustainable reform of the Australian water industry.*

The Council's third tranche assessment will look for governments to demonstrate that they have identified and transparently reported the objectives and size of all cross-subsidies. Furthermore, where a cross-subsidy has efficiency or effectiveness implications that are sufficient to undermine the overall policy objectives of the CoAG Framework, the Council will look for jurisdictions to justify the rationale for the retention of the cross-subsidy. This information should include the objectives of the cross-subsidy and discussion of why these objectives could not be achieved more effectively by another means. The Council will also consider the mechanisms in place to ensure ongoing effective treatment of cross-subsides in the future (for example, guidelines, independent regulation, future reviews).

An economic measure which looks at cross-subsidies outside of a Baumol band (which sets prices between incremental and stand alone cost), is consistent with the CoAG objective of achieving economically efficient water usage and investment outcomes. Thus, CoAG commitments do not preclude differential pricing within the bounds of incremental and standalone cost. However, where prices are below incremental cost, any shortfall in total revenue recovered through prices above standalone cost should be transparently reported. Further, where inconsistent with efficient and effective service provision and use, cross-subsidies should ideally be removed or replaced with a transparent CSO.

Community Service Obligations (clause 3(a)(ii))

Where service deliverers are required to provide water and wastewater services to classes of customers at less than full cost, this must be fully disclosed and, ideally, be paid to the service deliverer as a CSO.

As noted above, as a result of the January 1999 tripartite meeting, governments agreed that the Council would not make its own assessment of the appropriateness of any individual CSOs. However, it was also agreed that the Council would review information on CSOs provided by governments in totality to ensure that these CSOs do not undermine the objectives of the agreed water reform framework.

Thus, the third tranche assessment will look for governments to provide information on the size and objectives of CSOs provided by State and local government water businesses. In considering this information the Council

will look for State and local government CSOs to be provided via an effective framework for identifying, costing, funding, delivering and reporting CSOs. The Council will also look for evidence that the application of this framework is leading to CSOs that are clearly defined, have an explicit public benefit objective, are transparently reported and are consistent with the aims of CoAG pricing reforms.

New rural schemes (clause 3(d)(iii))

This provision commits jurisdictions to conducting robust, independent appraisal processes to determine *economic viability* and *ecological sustainability* prior to investing in new rural schemes, existing schemes and dam construction. Jurisdictions are to assess the impact on the environment of river systems before harvesting water. Legislative provisions, institutional arrangements as well as policies and procedures must be in place to ensure the economic viability and ecological sustainability of new investments in rural schemes prior to development.

In undertaking its third tranche assessment the Council will review developments since the second tranche assessment. This will include:

- revisiting matters raised for further consideration;
- review any changes to arrangements since July 1999; and
- ensuring that the viability and sustainability of any new projects has been established prior to their construction.

In considering the above matters the Council will look for assessment processes to provide for appropriate independence and public consultation and scrutiny. Arrangements should also be flexible enough to match the depth of analysis with the size and significance of the project. For large developments in particular, assessments should be based on the best information available with any assumptions and limitations clearly stated.

For assessments of economic viability the Council will look for all relevant economic, social and environmental costs and benefits to be factored into the analysis.[4] For large developments the Council suggests that a robust cost benefit analysis is an effective way of meeting CoAG commitments.

For assessments of ecological sustainability the Council is interested in information on the nature of the assessment and decision making processes as well as mechanisms to monitor the impacts of the development and compliance with environmental standards.

[4] Viability assessments should also discount cash flows using an appropriate rate such as a project specific weighted average cost of capital.

Reform commitment: institutional reform

In relation to institutional reform:

> 6(c) to the principle that, as far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision be separated institutionally;
>
> (d) that this occur, where appropriate, as soon as practicable, but certainly no later than 1998;
>
> (e) the need for water services to be delivered as efficiently as possible and that ARMCANZ, in conjunction with the Steering Committee on National Performance Monitoring of Government Trading Enterprises, further develop its comparisons of inter-agency performance, with service providers seeking to achieve international best practice;
>
> (f) that the arrangements in respect of service delivery organisations in metropolitan areas in particular should have a commercial focus, and whether achieved by contracting out, corporatised entities or privatised bodies this be a matter for each jurisdiction to determine in the light of its own circumstances; and
>
> (g) to the principle 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;

NCC interpretation and benchmarks for third tranche

Institutional role separation (clause 6(c), 6(d))

As far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision should be separated institutionally. The Council will look for jurisdictions, at a minimum, to separate service provision from regulation, water resource management and standard setting. Jurisdictions will need to demonstrate adequate separation of roles to minimise conflicts of interest.

The January 1999 tripartite meeting found that, while separate Ministers would be an acceptable form of separation, it is not the only acceptable form to demonstrate adequate separation of service provision from other roles to minimise conflicts of interest. If the regulator and service provider are responsible to the same Minister, the Council would require information about how the resulting potential conflict of interest has been effectively

addressed. The CPA gives implicit support to the desirability of independent regulators in its clause 2 provisions concerning independent prices oversight.

Performance monitoring and best practice (clause 6(e))

Jurisdictions have established national processes for inter-agency comparisons and benchmarking. Benchmarking systems have recently been put in place for the NMU and rural sectors while the Water Services Association of Australia reports annually on progress with major urban providers.

The Council views active participation in these initiatives as demonstrating compliance with this aspect of the reform framework. The Council recognises the first reports for the NMU and rural sectors are likely to be a rough cut in the initial years.

Commercial focus (clause 6(f))

Metropolitan service providers must have a commercial focus, whether achieved by contracting out, corporatisation, privatisation, etc, to maximise the efficiency of service delivery. The Council will look for appropriate structural and administrative responses to the CPA obligations, covering legislation review, competitive neutrality and structural reform.

Irrigation scheme management (clause 6(g))

Jurisdictions endorsed the principle that constituents be given a greater degree of responsibility for the management of irrigation areas citing, as an example, the potential devolution of operational responsibility subject to the establishment of an appropriate regulatory framework.

In conducting the third tranche assessment, the Council will look for all impediments to devolution to have been removed and local management arrangements identified in the second tranche assessment to have been implemented. The Council will also look for decisions to be made in regard to whether devolution of irrigation scheme management takes place and, if so, advice on when this will occur. Where reform has been undertaken, evidence should be provided demonstrating that an appropriate regulatory framework has been put in place.

Reform commitment: allocation and trading

In relation to water allocations or entitlements:

4(a) the State government members of the Council, would implement comprehensive systems of water allocations or entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality;

(b) where they have not already done so, States, would give priority to formally determining allocations or entitlements to water, including allocations for the environment as a legitimate user of water;

(c) in allocating water to the environment, member governments would have regard to the work undertaken by ARMCANZ and Australian and New Zealand Environment and Conservation Council (ANZECC) in this area;

(d) that the environmental requirements, wherever possible, will be determined on the best scientific information available and have regard to the inter-temporal and inter-spatial water needs required to maintain the health and viability of river systems and groundwater basins. In cases where river systems have been over-allocated, or are deemed to be stressed, arrangements will be instituted and substantial progress made by 1998 to provide a better balance in water resource use including appropriate allocations to the environment in order to enhance/restore the health river systems;

(e) in undertaking this work, jurisdictions would consider establishing environmental contingency allocations which provide for a review of the allocations five years after they have been determined; and

(f) where significant future irrigation activity or dam construction is contemplated, appropriate assessments would be undertaken to, interalia, allow natural resource managers to satisfy themselves that the environmental requirements of the river systems would be adequately met before any harvesting of the water resource occurs;

In relation to trading in water allocation or entitlements:

5(a) that water be used to maximise its contribution to national income and welfare, within the social, physical and ecological constraints of catchments;

(b) where it is not already the case, that trading arrangements in water allocations or entitlements be instituted once the entitlement arrangements have been settled. This should occur no later than 1998;

(c) where cross-border trading is possible, that the trading arrangements be consistent and facilitate cross-border sales where this is socially, physically and ecologically sustainable; and

(d) that individual jurisdictions would develop, where they do not already exist, the necessary institutional arrangements, from a natural resource management perspective, to facilitate trade in water, with the provision that in the Murray-Darling Basin the Murray-Darling Basin Commission be satisfied as to the sustainability of transactions;

NCC interpretation and benchmarks for third tranche

Water allocation (clause 4(a))

Governments have agreed to establish comprehensive systems of water entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality.

The Tripartite meeting considered 'comprehensive' required:

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

The legislative and institutional framework to enable the determination of water entitlements and trading of those entitlements should be in place. The framework should also provide a better balance in water resource use including appropriate allocations to the environment as a legitimate user of water in order to enhance/restore river health. The Council will also look for appropriate treatment of overland flows.

Water Property Rights

The Council will look for evidence that jurisdictions have in place the necessary legislation, policy, administrative systems and institutional arrangements to implement comprehensive systems of entitlements backed by separation of property rights from land title and clear specification. These arrangements should set:

- the rights and responsibilities of the Crown, users and the environment;
- provide for consultation, community involvement and public education;
- provide a methodology for determining and reviewing a sustainable balance between competing uses (including the environment); and
- deal with intra and interstate consistency where necessary.

The Council is aware there have been some recent concerns by stakeholders concerning what constitutes a water property right for the purposes of the water framework. The Council notes the work done by ARMCANZ in the 1995 paper 'Water Allocations and Entitlements: A National Framework for the Implementation of Property Rights in Water', and by the High Level Steering Group on Water (HLSGW)[5] in the 2000 paper 'National Approaches to Water Trading' which has recently been released for public consultation.

All jurisdictions have passed legislation to define water rights more clearly, separate water entitlements from land title and establish resource management and trading regimes to promote more efficient and sustainable water use. One of the outcomes of separating water rights from land title has been a perception by financial sector participants that these changes will lead to an increase in risk profiles and lending rates. The HLSGW report has concluded that this effect has the potential to undermine the benefits from the broader water reform agenda.

In reviewing the efficacy of arrangements established in legislation the Council will look for a system of property rights that strikes an effective balance between water users' need for security and the environments need for adaptive resource management. Water property rights regimes should maximise efficient water trade and investment subject to environmental needs.

Factors the Council is considering in relation to water property rights regimes include:

- water property rights should be well specified so as to promote efficient trade within the social, physical and ecological constraints of catchments;

- to achieve the above, property rights should be in demand, well specified in the long term sense, exclusive, enforceable and enforced, transferable and divisible and provide for sustainability and community needs;

- in establishing rights that are well specified in the long term sense there is a need to ensure water users get the highest possible level of security in regard to the nature of the property right, and absolute security on the issue of ownership;

- in relation to ownership, while a 'lease in perpetuity' maximises security, it is not required to meet minimum CoAG commitments;

- compensation may be payable, for instance, where reductions in reliabilities and other relevant parameters are capricious or disproportionate but this is not a CoAG requirement and is the purview of governments;

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5 The High Level Steering Group on Water (HLSGW) is responsible for intergovernmental coordination of the water reform agenda.

- Part IV of the Trade Practices Act could potentially be applied if the acquisition of water property rights results in a substantial lessening of competition;

- the Council will be examining the efficacy of water property rights systems for the third tranche assessment;

- water rights should be linked to a robust adaptive resource planning system; and

- any constraints on water rights and trade should be based on a sound public benefit justification and be implemented in a way that minimises impacts on efficient trade.

Provision for the environment (clauses 4(b),4(c), 4(d),4(e), 4(f))

Jurisdictions must develop allocations for the environment in determining allocations of water and should have regard to the relevant work of ARMCANZ and ANZECC. The Council will be looking for progress in implementing jurisdictional programs to be consistent with the ARMCANZ and ANZECC *National Principles for the Provision of Water for Ecosystems* (ARMCANZ/ANZECC 1996).

Best available scientific information should be used and regard had to the inter-temporal and inter-spatial water needs of river systems and groundwater systems.

The CoAG Framework requires that where river systems are over allocated or deemed stressed, there must be substantial progress by 1998 towards the development of arrangements to provide a better balance in usage and allocations for the environment.

The tripartite meeting further clarified the requirements and timeframes:

> *For the second tranche, jurisdictions submitted individual implementation programs, outlining a priority list of river systems and/or groundwater resources, including all river systems which have been over-allocated, or are deemed to be stressed and detailed implementation actions and dates for allocations and trading to the NCC for agreement, and to Senior Officials for endorsement. This list is to be publicly available.*
>
> *For the third tranche, States and Territories will have to demonstrate substantial progress in implementing their agreed and endorsed implementation programs. Progress must include at least allocation to the environment in all river systems which have been over-allocated, or are deemed to be stressed.*

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

The Council will therefore look to States and Territories to provide information demonstrating that they have:

- considered environmental contingency allocations, including the planning process (allocation, management, operation implementation, and use), monitoring and review mechanisms (the maximum timeframe allowed before review and identification of triggers prior to this time elapsing) after initial determination;

- established a sustainable balance between the environment and other uses, including formal water provisions for surface and groundwater consistent with the ARMCANZ and ANZECC national principles;

- determined and specified property rights, including the review of dormant rights;

- instituted a statewide process in setting environmental allocations, and when issuing new entitlements, have provided for environmental allocations; and

- progressed the implementation of the endorsed allocation programs as published in the Council's second tranche assessment, providing:

  – a report on which river systems (including stressed, and other overallocated systems) identified in the second tranche have fully delivered/ partially delivered/ not yet commenced allocations to the environment, as well as for river systems; and

  – a report on the status of identified stressed rivers which were not addressed in a jurisdiction's endorsed 'roll-out' plan.

The Council agreed to the implementation programs provided by jurisdictions in its second tranche assessment while noting the following relevant matters:

- The National Land and Water Resources Audit, funded under the National Heritage Trust, is currently being undertaken and will provide valuable information to jurisdictions and the Council as to any relevant systems not included in the programs or requiring a higher priority.

- The High Level Taskforce on Water Reform may, prior to the third tranche assessment, undertake to identify some relevant criteria for classifying stressed river systems. This process may result in a modification to implementation programs.

- The implementation programs, by their nature, may need to be amended depending on proposed new developments and other significant events. In particular, the ongoing assessment of unregulated subcatchments may

result in additional High Stressed Catchments being included in the timetable.

The Council therefore concluded that implementation programs may change over time, subject to agreement between the Council and a jurisdiction.

For the third tranche assessment, the Council is seeking information on progress against implementation programs which demonstrates the following outcomes.

1. Regard to the work of ARMCANZ and ANZECC

In their approaches to water planning, allocations and use, jurisdictions will have had regard to the twelve principles embodied in work of the ARMCANZ and ANZECC *National Principles for the Provision of Water for Ecosystems* (ARMCANZ and ANZECC 1996). These are provided in Box A.3.

Box A.3: ARMCANZ National Principles for the Provision of Water for Ecosystems

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

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

Principle 3 - environmental water provisions should be legally recognised.

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

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

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

Principle 7 - accountabilities in all aspects of management of environmental water should be transparent and clearly defined

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

Principle 9 - all water uses should be managed in a manner which recognises ecological values.

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

Principle 11 - strategic and applied research to improve understanding of environmental water requirements is essential.

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

Source: (ARMCANZ and ANZECC 1996)

2. Stressed or over-allocated rivers or aquifers

Jurisdictions will need to show that they have achieved substantial progress in meeting the commitments with regard to stressed or over-allocated systems within the timelines provided in the implementation programs as published in the second tranche assessment.

The Tripartite meeting identified that '*significant progress*' is required for the third tranche assessment and was defined to include at least allocations to the environment in all river systems which have been over-allocated, or are deemed to be stressed. Jurisdictional programs in this area must be substantially complete by 2005.

The issue of environmental allocations in stressed or over-allocated systems will be carefully scrutinised by the Council in the third tranche assessment. Jurisdictions will need to demonstrate progress in setting allocations that are adequate to meet the environmental requirements of water sources and dependent ecosystems. Jurisdictions will also need to demonstrate that there are adequate monitoring and review arrangements in place, such that allocations are able to be revised should monitoring reveal current allocation arrangements are inadequate.

The Council accepts that some jurisdictions have only recently enacted legislation which provides for full recognition of the environment's right to a share of the water resource necessary to maintain ecological values. For third tranche compliance, the Council will expect that planning and implementation mechanisms are substantially in place such that allocations to the environment can be implemented as per a jurisdiction's timetable.

In the second tranche assessment, the Council noted that implementation programs may change over time, provided there is agreement between a jurisdiction and the Council.

3. Systems not defined as stressed or over-allocated

Jurisdictions will need to demonstrate both the capacity and intention to formally provide and use scientifically based environmental allocations for all water dependent ecosystems (as defined in the ARMCANZ and ANZECC principles), thus recognising the environment as a legitimate user of water.

The Council considers that, for all rivers and aquifers not presently declared over-allocated or hydrologically stressed, there should be no impediment to developing a formal allocation for the environment if required. The Council will therefore look for evidence in future assessments that jurisdictions have forward looking mechanisms in place and operating effectively for adaptive natural resource management.

In short, the Council seeks evidence of progress for the third tranche and subsequent assessments to ensure that allocations and trading will be substantially completed for all river systems and groundwater resources by 2005 as identified in the agreed and endorse individual implementation programs.

4. Review of allocations

While jurisdictions may have used the best available scientific information to determine initial allocation decisions, they will also need to demonstrate that they have not locked in allocations which over time and in the light of better information, could be seen as being inadequate to meet environmental water requirements.

The Council expects jurisdictions to have in place a clear pathway for review of allocations within the timeframe called for in the CoAG Framework.

Water trading (clause 5)

The objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the physical, social and ecological constraints of catchments. The CoAG Framework originally looked for trading arrangements in water entitlements to be instituted once the entitlement arrangements have been settled and that this should occur no later than 1998.

Jurisdictions should establish a framework of trading rules, including developing necessary institutional arrangements from a natural resource management perspective to eliminate conflicts of interest, and remove impediments to trade. The Council will consider the adequacy of trading rules to ensure that the scope for efficient trade is maximised. Where restrictions on trade exist, information should be provided on the physical, social or ecological reasons for the restrictions.

The Council will be looking for impediments to trade to be addressed and the further development of interstate trade in water. For the third tranche assessment, the Council is looking for States and Territories to:

- provide information on developments since the second tranche assessment including current trading rules, the legislative and institutional arrangements, as well as the value, volume, location and nature (for example, permanent versus temporary trades, transfers from lower to higher value uses) of inter and intrastate trades;

- Where cross-border trade is possible, trading arrangements must be consistent between jurisdictions and facilitate trade. Where trading across State borders can occur, relevant jurisdictions must review pricing and asset valuation policies to determine whether there is any substantial distortion to interstate trade. Jurisdictions should develop proposals for further extending interstate trading in water, given the framework requirement for cross border trade to be as widespread as possible (for example, the second tranche assessment calls for interstate trade between: New South Wales and Queensland as a priority; the ACT and New South Wales; and Western Australia and the Northern Territory for the Ord system); and

- demonstrate that, where restrictions remain, the benefits of the restriction outweighs the costs (for example, show that mechanisms in place for water trading do not adversely impact on river health where surface waters are traded, or in the case of groundwater, do not result in demands on aquifers that are ecologically unsustainable).

Reform commitment: environment and water quality

In relation to institutional reform:

> 6(a) that where they have not already done so, governments would develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
>
> (b) to the adoption, where this is not already practiced, of an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments;

In relation to the environment:

> 8(a) that ARMCANZ, ANZECC and the Ministerial Council for Planning, Housing and Local government examine the management and ramifications of making greater use of wastewater in urban areas and strategies for handling stormwater, including its use, and report to the first Council of Australian Governments' meeting in 1995 on progress;
>
> (b) to support ARMCANZ and ANZECC in their development of the National Water Quality Management Strategy, through the adoption of a package of market-based and regulatory measures, including the establishment of appropriate water quality monitoring and catchment management policies and community consultation and awareness;
>
> (c) to support consideration being given to establishment of landcare practices that protect areas of river which have a high environmental value or are sensitive for other reasons; and
>
> (d) to request ARMCANZ and ANZECC, in their development of the National Water Quality Management Strategy, to undertake an early review of current approaches to town wastewater and sewage disposal to sensitive environments, noting that action is underway to reduce accessions to water courses from key centres on the Darling River system. (It was noted that the National Water Quality Management Strategy is yet to be finalised and endorsed by governments.);

NCC interpretation and benchmarks for third tranche

Integrated resource management (clause 6(a), 6(b) 8(b), and 8(c))

Jurisdictions should have in place integrated resource management practices, including:

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

The Council will examine the programs established by jurisdictions to improve approaches for integrated resource management. Programs should desirably address such areas as government agency coordination, community involvement, coordinated natural resource planning, legislation framework, information and monitoring systems, linkages to urban and development planning, support to natural resource management programs and landcare practices contributing to protection of rivers of high environmental value.

Integrated catchment management

It is important that jurisdictions demonstrate that the catchment management planning process is free from domination by narrow sectoral interests to ensure decisions reflect the balance of interests within the wider community. Genuine stakeholder participation in catchment planning requires agreement to the principles underpinning the plan such as cost sharing arrangements, acceptable basin impacts, and allowable tradeoffs amongst water users. Appropriate institutional arrangements should ideally have a statutory underpinning.

The Council is aware that there has been little guidance developed to date to address issues of integrated catchment management. The Council notes the House of Representatives Standing Committee on Environment and Heritage is conducting an inquiry into catchment management practices in Queensland, New South Wales, South Australia, Western Australia, ACT and Victoria, and is expected to report its findings shortly.

The Council proposes to review the process followed by each jurisdiction to ensure effective implementation of catchment management practices. Further, the Council will also take account of any reviews by jurisdictions in this area and whether the findings of these reviews are being implemented.

Information provided by jurisdictions could include:

- a description of the overall coordinating body including its composition and functions relating to natural resource management and links to regional/local government bodies;

- a description of the process whereby catchment management bodies (trusts, committees, councils, or groups) are formed including how the local community, local government, and state agencies are involved;

- a description of the statutory basis of catchment management plans/strategies and capacity and mechanisms to enforce actions identified in the plan;

- a description of the framework used to assist catchment managers to evaluate/review the effectiveness of a catchment management process; and

- a description of landcare practices (including extent of coverage) that protect areas of river which have a high environmental value.

National Water Quality Management Strategy (clauses 8(b) and 8(d))

The National Water Quality Management Strategy (NWQMS) aims to deliver a nationally consistent approach to water quality management. It is being developed in response to growing community concern about the condition of the nation's water. The policy objective is '*to achieve sustainable use of the nation's water resources by protecting and enhancing their quality while maintaining economic and social development*.'

The Council is proposing to take the following approach for the third tranche assessment.

- Each jurisdiction should be able to demonstrate a high level of political commitment and a jurisdictional response to ongoing implementation of the principles contained in the NWQMS guidelines, including to achieving the policy objectives. Such commitment should include the development of practical on-the-ground action, which might involve the use of legislation, policy instruments, programs or plans. These should contain provisions which are consistent with the guidelines, and scope for review.

- Each jurisdiction should have a publicly stated commitment to implementing the principles identified in the Strategy and have implemented an approach for adopting the scientific framework outlined in the *Australian Water Quality Guidelines for Fresh and Marine Waters* (ANZECC 1992). There should be an appropriate statewide approach to water quality management.

- Each jurisdiction should have in place a water reform program that integrates water quality and quantity management requirements in their

approaches to land-use planning. In relation to water quality, this program should target the attainment of the ambient environmental quality objectives set in consultation with the community.

- All relevant legislative, regulatory and policy measures to protect water quality should, where practicable, be consistent with the *Implementation Guidelines for the NWQMS* (ARMCANZ and ANZECC 1998). In particular, they should include measures to promote:

  – integrated resource management;

  – identification of environmental values and associated water quality objectives; and

  – catchment, coastal and groundwater management planning.

Each jurisdiction should be able to demonstrate use of the relevant national guidelines. Where necessary, jurisdictions should have produced local guidelines or codes of practice consistent with the national guidelines so far completed for those industries covered under the NWQMS. The national guidelines seek adoption of local guidelines to underpin the regulation of each of the activities covered.

The strategy for the achievement of sustainable water quality management should build on a full mix of approaches including, but not limited to, regulatory and market based approaches, education and guidance. This is supported by CoAG. Market-based approaches should play a complementary role in achieving protection and enhancement of water quality where appropriate.

Where modules have been finalised, jurisdictions must have finalised their approach and initiated market-based and regulatory activities and measures such as water quality monitoring, catchment management policies, town wastewater and sewerage disposal and community consultation and awareness to give effect to the NWQMS.

Jurisdictions should support ANZECC and ARMCANZ in the development of the remaining modules of the NWQMS.

Reform commitment: public consultation and education

In relation to consultation and public education:

> 7(a) to the principle of public consultation by government agencies and service deliverers where change and/or new initiatives are contemplated involving water resources;

(b) that where public consultation processes are not already in train in relation to recommendations (3)(b), (3)(d), (4) and (5) in particular, such processes will be embarked upon;

(c) that jurisdictions individually and jointly develop public education programs in relation to water use and the need for, and benefits from, reform;

(d) that responsible water agencies work with education authorities to develop a more extensive range of resource materials on water resources for use in schools; and

(e) that water agencies should develop individually and jointly public education programs illustrating the cause and effect relationship between infrastructure performance, standards of service and related costs, with a view to promoting levels of service that represent the best value for money to the community;

NCC interpretation and benchmarks for third tranche

Consultation prior to change (clauses 7(a) and 7(b))

Jurisdictions must have consulted on the significant CoAG reforms (especially water pricing and cost recovery for urban and rural services, water allocations and trade in water entitlements). The Council will examine the extent and the methods of public consultation, with particular regard to pricing, allocations and water trading.

Public education programs (clauses 7(c), 7(d) and 7(e))

Education programs related to the need for and benefits of reform should be developed. Evidence should also be provided of agencies working individually and jointly to develop public education programs that illustrate the need for reform, and general awareness of water related issues. This could include the relationship between infrastructure performance, standards of service and related costs. These programs should promote levels of service that represent the best value for money to the community.

The Council will look for evidence that responsible agencies are working with education authorities to develop a more extensive range of resource materials for use in schools.

The Council noted in the second tranche assessment that there is a potential conflict in the service provider being responsible for determining the level of ongoing public education on water conservation when it has a financial

interest in increased water consumption. The Council is interested in information on measures used by jurisdictions (for example, an effective purchaser provider split) to address this issue, including programs offered by service providers as 'good corporate citizens'.

Reviewing and reforming water legislation: the CPA commitment

As well as implementing the CoAG Framework, governments agreed to ensure the water industry is subject to clause 5 of the CPA. This commits governments to ensuring that legislation does not restrict competition unless the benefits of the restriction to the community as a whole outweigh the costs and the objectives of the legislation can only be achieved by restricting competition.

Legislative reform was important for meeting a number of second tranche water reform commitments in relation to, for example, water allocations and trading, institutional separation and resource management. Until recently a key third tranche issue was the risk that jurisdictions may not have implemented amendments to legislation by the year 2000 deadline, in line with the CPA legislation review commitments.

However, in November 2000 CoAG agreed that the 2000 deadline for the full completion of all jurisdictions' legislation review programs should be extended to 30 June 2002. Accordingly, the Council will continue to monitor progress and look for full implementation by 30 June 2002, with a robust public interest justification provided for any delays beyond this date.

For the third tranche, the Council is looking for jurisdictions to provide a status report on reviews of water legislation including whether a piece of legislation has been repealed by passage of new legislation. Where a government chooses to continue a restriction on competition, or not to apply recommended reforms, the Council will require evidence in the annual report of the public interest justification or why non-implementation benefits the community.

Appendix B: Water trading

Governments have agreed that water trading arrangements should be in place to so as to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments.

Consistent with commitments under Clause 5 of the CoAG framework, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the physical, social and ecological constraints of catchments. The Council's view is that, as far as possible, water rights regimes should facilitate trading that maximises the value of the resource with any restriction on trade being transparent and based on a sound public benefit.

In assessing compliance with Clause 5 of CoAG framework, the Council has looked for the following matters to be given due consideration:

- a clear definition of sustainable water rights; (ie what is being traded)
- clear water trading zones and rules; (ie where and how trade can occur)
- robust markets and trading procedures; (clearance and facilitating trade)
- a number of market choices;
- accessible and equitable market information;
- certainty, confidence and timeliness; and
- capital efficiency.

This approach is consistent with the High Level Steering Group on Water report 'A National Approach to Water Trading' (2000).

In making its assessment the Council recognises that the means through which each of the above issues are addressed will vary from jurisdiction to jurisdiction. That said, as trading in most jurisdictions is still in its infancy, the assessment has focussed on the establishment of mechanisms, policies and information that provide a sound foundation for efficient water trading. Particular focus in this assessment has therefore been extended to:

- the clear definition of property rights;
- adequate specification of appropriate trading rules and zones;
- appropriate market procedures; and

- accessible and equitable market information.

In future assessments, the Council will look for evidence of effective trade in areas of demand and measures to be in place to increase the depth of water trading markets.

Definition of water entitlements

Well-defined property rights are essential for efficient water trade. Efficient trade in water rights requires that market participants are able to form a reasonable expectation about the magnitude and distribution of the benefits likely to be provided by the water right and the likelihood that those benefits will be realised. That is, water rights must be well defined in terms of both:

- *the nature of the right* – the benefits promised by holding the water right; and

- *ownership* – the right holders ability to realise those benefits.

In addition, transitional mechanisms that allow for the movement to a system of sustainable property rights should be open and transparent so that potential market participants understand the impact upon their water rights.

Discussion on the definition of water entitlements has been given in the allocations section. Therefore, the focus in this chapter will be solely upon the impact of these issues on the efficacy of inter- and intra- state trading markets.

Nature of the right

Efficient water trade, consistent with the clause 5 objective of maximising water's contribution to national income, requires that buyers and sellers have a clear understanding of exactly what they are trading. This includes clear specification of the volume, ownership, reliability and, if appropriate, quality of the water provided by the right over time. Poorly defined rights increase the risks associated with holding a water right, which is likely to discourage beneficial trade and investment that would have otherwise occurred.

Ownership

Uncertainty about the individual right holder's security of tenure can impede efficient trade and investment. Rights covering only a short time or which have significant risk of uncompensated reductions in the share of the available resource provided for the duration of the water right mean that water users are more uncertain about whether they will have access to the water in the future. This can be a significant issue, particularly when considering major investments in assets with long lives with little or no resale value. Key issues in ensuring that water rights' security of ownership of

water rights is maximised include the duration of the right, ensuring that the right is enforced, the quality of the title and establishing rights that are transferable and divisible.

Water trading zones and rules (where and how people can trade)

Efficient and effective trading requires clearly defined trading zones and rules. Uncertainty about where and under what conditions trading can take place can discourage mutually beneficial trades. Where trading rules and zones are used to pursue environmental or community objectives, this should be done in a way that minimises the impact on efficient trade.

Markets and trading procedures

As noted by the High Level Steering Group on Water's Report, any financial transaction involves risk to the participants (including payment to the seller and delivery to the buyer). However, water trade involves an important set of additional risks relating to environmental impacts and third party effects. If water trading is to maximise water's contribution to national income and welfare, transparent and efficient clearance procedures must be in place to address risks to both market participants and third parties.

Where precautionary measures are put in place, it is important to:

- separate legitimate from illegitimate reasons for restricting trade;
- recognise that social impacts should not be ignored but should be addressed in their own right;
- examine and improve the efficacy and efficiency of legitimate restrictions; and
- balance the need for appropriate protection for buyers, sellers and third parties, generally through buyer and seller checks, with the need for timely processing of trade applications.

Ideally, sufficient information should be provided to allow potential buyers and sellers to shop around and compare water prices, transaction fees and services offered by water brokers and water exchanges.

Market choices

The HLSGW Report notes that it is important for potential market participants to have a wide choice in the manner in which their trade is conducted. There are three main mechanisms for trade:

- Private trade;
- Water brokers; and
- Water exchanges.

While it is not essential to have all of these options available for all trades, a variety of mechanisms for trade will only benefit trading markets. A variety of trading mechanisms usually results in the wider public availability of information regarding trading mechanisms, availability and price and encourages participation in the market as buyers and sellers can make a reasonable estimate of the value of their water. As well as providing a mechanism for trade, a water exchange is one way in which market information can be provided effectively. Evidence suggests that these exchanges also facilitate trade by providing a price-setting function for private sales in the region

Market information

Water trading will only maximise the resources contribution to income and welfare when actual and potential market participants have enough and equal information to make and informed decision about a particular trade. As noted by the HLSGW Report an effective market depends on buyers and sellers having access to timely and relevant quality information on the key questions of:

- what is being traded;
- where can water be traded to and from;
- how trades can be executed;
- what are the procedures; and
- what are the risks and can these be managed.

The Report also notes the value of water exchanges as a forum for the dissemination of market information and price information. Evidence suggests that exchanges also serve a price setting function for private sales.

Certainty, confidence and timeliness

It is important for potential market participants to fully understand the risks involved with participation in the market and that these risks be minimised. As such, the High Level Steering Group on Water report notes that:

> *Governments should ensure that trading is as open and transparent as possible and should seek to minimise any artificial impediments to trade.*

Market transparency could be accomplished through easily available market information and information on trading rules, practices and procedures. This would include clear specification of water property rights, especially in terms of the nature of the right and ownership. Governments should work to remove any impediments to effective trade, and ensure that remaining impediments are based on sound public benefit and be the least distortionary means possible.

Capital efficiency

Improved capital efficiency of water entitlements and property rights is a key outcome of the better specification of property rights and the development of trading markets. Water entitlements are valuable capital assets, and in many areas, are more valuable than the land they used on. A water user with a water entitlement of 5000ML could potentially own a resource with a value in excess of $5million.

As such, water users need flexibility in the methods of managing water as a capital asset. These methods may include:

- Mortgage security;
- Leased for one or many years in the same manner as vehicles and equipment, rather than purchased outright;
- Sold to a financier and leased back; and
- Subject to conditional sale, purchase or lease contracts and other forms of options.

It should be noted that mechanisms to improve capital efficiency as described, particularly the latter two, are generally found only in developed, or mature, markets. As water markets are generally still in their infancy, the Council will not be requiring a specific suite of these mechanisms in its third tranche assessment. Instead, the Council has looked for the appropriate basis to exist for the development of these options, and consideration by Governments of how markets may be improved in future assessments.

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