

## **B10.2 WATER REFORM, NEW SOUTH WALES**

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## Table of Abbreviations

ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ANZECC	Australian and New Zealand Environment and Conservation Council
AWT	Australian Water Technologies P/L
CRCFE	Co-operative Research Centre for Freshwater Ecology
CM Act	Catchment Management Act 1989
CMC	Catchment Management Committee
CMT	Catchment Management Trust
COAG	Council of Australian Governments
CPA	Competition Policy Agreements
CSO	Community Service Obligation
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DLWC	Department of Land and Water Conservation
DUAP	Department of Urban Affairs and Planning
EBIT	Earnings before Interest and Tax
EFR	Environmental Flow Rules
EPA	Environment Protection Agency
GCC	Gosford City Council
GMC	Groundwater Management Committee
GMP	Groundwater Management Plan
GTE	Government Trading Enterprise
HRC	Healthy Rivers Commission
HWC	Hunter Water Corporation
IAG	Independent Audit Group
IPART	Independent Pricing and Regulatory Tribunal

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KL	Kilolitre (1 000 l)
LIS	Line in the Sand
LRMC	Long Run Marginal Cost
LWMP	Land and Water Management Plan
MDBC	Murray Darling Basin Commission
ML	Megalitre (1000 kL)
MoU	Memorandum of Understanding
NCC	National Competition Council
NHMRC	National Health and Medical Research Council
NMU	Non-metropolitan Urban Water Authority/Supplier
NPWS	National Parks and Wildlife Service
N SW Health	Department of Health
NWQMS	National Water Quality Management Strategy
OL	Operating Licence
OMA	Operating, Maintenance and Administration expenses
RoR	Rate of Return
RFMP	River Flow Management Plan
RMC	River Management Committee
RMP	River Management Plan
RWA	Rural Water Authority
SCA	Sydney Catchment Authority
SCARM	Standing Committee on Agriculture and Resource Management
SWC	Sydney Water Corporation
SOC	State Owned Corporations Act 1989
TCM	Total Catchment Management
TER	Tax Equivalent Regime

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WAC	Water Advisory Council
WACC	Weighted Average Cost of Capital
WQAP	Water Quality Action Plan
WSAA	Water Services Association of Australia
WSC	Wyong Shire Council

# B10 Water Reform

## B10.2 New South Wales

### 10.2.1 EXECUTIVE SUMMARY

This is an assessment of New South Wales' performance against the strategic framework for water reform. The assessment provides an overview of the reforms implemented and measurement of the reforms against specific commitments in the strategic framework.

The assessment considers both legislation and policy initiatives and the application of the initiatives in specific circumstances.

### PROGRESS ON REFORMS

#### *Cost reform and pricing*

- Water service providers under the jurisdiction of the Independent Prices and Regulatory Tribunal (IPART) have substantially achieved full cost recovery.
- Non Metropolitan Urban service providers (NMUs) are also in large part attaining full cost recovery as required by the framework. The Council considers that the various mechanisms outlined by New South Wales to encourage full cost recovery provide considerable incentive to local governments to meet reform commitments.
- The Council will monitor the implementation of a Tax Equivalent Regime for NMUs prior to the third tranche assessment.
- Sydney Water Corporation (SWC) and Hunter Water Corporation (HWC) have implemented effective two part tariff regimes.
- The large base consumption allowance for Gosford Water Corporation (GCC) and Wyong Shire Council (WSC) customers effectively results in many being charged a single access fee without a volumetric charge or consumption based pricing; the Council notes the advice of New South Wales that this will be eliminated from 1 July 2000.
- The majority of larger NMUs have implemented two part tariffs. The Council notes in this respect that the IPART Pricing Principles for NMUs reflect the strategic framework requirements for consumption based pricing. There are, however, significant water businesses that have not met reform commitments. The Council notes the commitment of New South Wales to negotiate on a case by case basis with the local governments that have made little to no progress towards appropriate tariffs. The Council will monitor the further implementation of pricing reform for these local governments prior to the third tranche assessment.
- There is an emphasis on volumetric charging for both metropolitan bulk water and waste water pricing.

- HWC has removed cross-subsidies and SWC will shortly have achieved this objective.
- Because of the large base allowance provided by GCC and WSC, the Council is concerned at the cross-subsidisation of some water users by those whose water use is less than the allowance. The Council notes that this allowance will be eliminated from 1 July 2000.
- While there has been strong commitment by the New South Wales and local Government NMUs to remove cross-subsidies, significant businesses still retain pricing structures that suggest cross-subsidisation between customer classes. The Council will monitor the further implementation of pricing reform for these local governments prior to the third tranche assessment.
- New South Wales has a clearly defined and well targeted Community Service Obligation (CSO) regime.
- Service providers, on the whole, have a real rate of return on assets as required by the strategic framework.
- New investments in rural schemes are the subject of robust appraisals regarding economic viability and ecological sustainability.
- Operational responsibility for the management of irrigation areas has been devolved.

The Council is, on the whole, satisfied that New South Wales has met reform commitments for pricing reform for the second tranche.

### ***Institutional reform***

- The Council has reviewed the findings of the Sydney Water Inquiry and regards the recommendations as to institutional arrangements as being consistent with the water reform commitments. The Council notes the creation of the Sydney Catchment Authority (SCA) to take over responsibility of the catchment and the re-ordering of the relationship between SWC and New South Wales Health. The Council will continue to monitor implementation of other recommendations prior to the third tranche assessment. The Council would also expect to see a flow through of the recommendations to HWC.
- Present regulatory arrangements for NMUs are being improved to provide increased transparency as to financial accountability of service providers and reviewed to permit greater separation of functions. The Council will carefully review new arrangements prior to the third tranche assessment to ensure rigorous separation of service provision from other functions.
- Present arrangements for State Water achieve, in large part, appropriate institutional separation for rural water supply.
- SWC and HWC have a commercial focus.

- Performance monitoring and benchmarking practices present in New South Wales at this time meet framework commitments, although the Council will continue to monitor the development of NMU and rural agency performance indicator tools.

The Council is satisfied that New South Wales has met its second tranche commitments to reform water industry institutions, though some areas will be monitored closely prior to the third tranche assessment.

### *Allocations and trading*

- The present entitlement system in regulated systems and groundwater meets the requirements of the framework. However, the Council is not satisfied that this is the case for water licences on unregulated rivers and streams. In these systems the title to water is presently tied to the land area and use. The Council is therefore not satisfied that New South Wales has in place a comprehensive system of water entitlements backed by separation of water property rights from land title and a clear specification of entitlements in terms of volume, reliability or transferability. The reform agenda outlined by New South Wales addresses many of the aspects of the framework. New South Wales has committed to reviewing its present legislation and the Council will undertake a supplementary assessment for this reform commitment by June 2000.
- The achievement of New South Wales in developing Environmental Flow Rules (EFRs) on regulated rivers has advanced the process of balancing environmental and consumptive uses of water. However, the Council is not satisfied that allocations have been developed for the environment in other systems. Progress in unregulated systems is somewhat dependent on reforms outlined by New South Wales. Policy work for groundwater management is still being developed. The Council will undertake a supplementary assessment for this reform commitment by June 2000.
- The Council has agreed to the implementation program for allocations as outlined in attachments 3, 4 and 5. In doing so, the Council notes that the implementation programs may change over time provided there is agreement between New South Wales and the Council.
- Significant trading in water is occurring in New South Wales, with some 200 000-700 000 ML traded annually and a significant net contribution to the New South Wales rural economy. The Council is not satisfied, however, that present trading arrangements remove impediments to trade. In some cases approvals for trades can take several seasons. Many of the acknowledged deficiencies will be addressed by new water licensing arrangements. In addition, reviews underway will examine and make recommendations regarding trading rules. The Council will undertake a supplementary assessment for this reform commitment by June 2000.

The Council is not satisfied that New South Wales has met this reform commitment and will undertake a supplementary assessment by June 2000.



### ***Environment and water quality***

- The extensive work of New South Wales in integrated resource management satisfies the requirement of the strategic framework. The Council has reviewed the provisions of the *Catchment Management Act 1989* and notes that it provides a comprehensive framework consistent with the strategic framework. The Council also notes that new initiatives such as the Healthy Rivers Commission and the development of Land and Water Management Plans will ensure continuing review of and improvement to existing management practices.
- New South Wales has met its second tranche reform commitment in respect of the National Water Quality Management Strategy. The Council notes that it will continue to review the implementation of the strategy, including monitoring and compliance, prior to the third tranche assessment. The Council notes the recommendations of the Sydney Water Inquiry concerning the quality of SWC's water supply and will continue to monitor the implementation of the recommendations prior to the third tranche assessment.

The Council is satisfied that New South Wales has met its second tranche commitments in respect of the environment and water quality. These matters will be closely reviewed by the Council for all jurisdictions prior to the third tranche assessment.

### ***Public education and consultation***

- New South Wales has embarked on extensive public consultation and education programs as part of reform initiatives and ongoing work.
- The Council notes its preliminary view that service providers are not appropriate public education suppliers on matters such as water conservation. The Council will continue to review this matter prior to the third tranche assessment.

## **ASSESSMENT**

The Council is of the view that, on the whole, New South Wales has met major reform commitments for the purposes of the second tranche.

The Council will undertake a supplementary assessment on 30 June 2000 to assess whether legislation to effect water allocation and trading reform commitments has been passed by the New South Wales Parliament. The Council notes that failure to pass the legislation may have implications for its recommendation on the second part of second tranche payments.

The Council has now built up a considerable amount of information concerning New South Wales Water Reform. Matters of concern have been noted and these and the remaining aspects of the strategic framework will closely scrutinised over the period prior to 30 June 2001.

## **B10.2.2 REFORM COMMITMENT: COST REFORM AND PRICING**

### **Major Urbans and Non-Metropolitan Urbans**

#### **10.2.2.1 Drawing on the advice of the Expert Group and complying with the ARMCANZ full cost recovery guidelines, jurisdictions are to implement full cost recovery.**

Water businesses must price between a floor price which allows for the continuing commercial viability of the system and a ceiling price which incorporates asset values and a rate of return but does not include monopoly profits:

- the floor price includes provision for future asset refurbishment or replacement using an annuity approach where service delivery is to be maintained; and
- the ceiling price includes provision for asset consumption and cost of capital calculated using a weighted average cost of capital (WACC).

Within the band, a water business should not recover more than operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (TERs), the interest costs on debt, and dividends (if any) set at a level that reflects commercial realities and simulates a competitive market outcome.

The level of revenue should be based on efficient resource pricing and business costs. In determining prices, CSOs, contributed assets, the opening value of assets, externalities including resource management costs, and TERs should be transparent. The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.

### **NSW arrangements**

#### **Background**

New South Wales has four principal metropolitan water suppliers (Sydney Water Corporation (SWC), Hunter Water Corporation (HWC), Gosford City Council (GCC) and Wyong Shire Council (WSC)) whose prices are regulated by the Independent Pricing and Regulatory Tribunal (IPART). Sydney Water Corporation supplies water services to 3 489 000 persons and Hunter Water Corporation to a population of some 469 000 persons.<sup>49</sup> Each of these authorities presently own their own dams and supply their own bulk water.

In addition there are one hundred and twenty-six NMUs, operated on the whole by local government councils, whose prices are not regulated by IPART, although IPART has provided guidelines for pricing.<sup>50</sup> Some 80 per cent of NMUs supply water and sewerage services to populations of less than 20 000, 50 per cent to

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<sup>49</sup> WSAA Fact '97, The Australian Urban Water Industry.

<sup>50</sup> IPART has produced *Pricing Principles for Local Water Authorities* (September 1996) which examined 'generic issues in order to identify the scope for a common approach to pricing principles'.

populations of less than 5 000 and 15 per cent of NMUs to populations of less than 1 500. Some NMUs own their own dams and have a statutory right to provide their own bulk water, while the majority are supplied bulk water by the Water Administration Ministerial Corporation, part of the Department of Land and Water Conservation. It is noted that DLWC supplies bulk water to other users including for example irrigators, industry and farmers. Other NMUs are supplied by SWC and, in the case of two authorities, HWC.<sup>51</sup> Both SWC and HWC both pay volumetric water usage charges to DLWC. IPART regulates bulk water pricing.

## Full Cost Recovery

### IPART

Prices for SWC and HWC have been regulated by IPART since 1992. At present both are the subject of a four year price path (1996-2000) and have undergone a mid-term price review. The SWC review resulted in a reduction in annual sewerage charges for non-residential customers by an additional amount of \$40 million because of changes in CPI below those forecast. GCC and WSC have been regulated since 1996, and are presently on a three year price path (reviewable 1999). In determining prices, IPART is required to have regard to particular matters including:<sup>52</sup>

- the cost of providing the services concerned;
- the protection of consumers from the abuses of monopoly power in terms of prices, pricing policy and standard of services;
- the appropriate rate of return (RoR) on public sector assets, including appropriate payment of dividends to the Government;
- the need for greater efficiency in supply of services so as to reduce costs for the benefit of consumers and taxpayers;
- the need to maintain ecologically sustainable development by appropriate pricing policies that take account of options to protect the environment;
- the impact on pricing policies of borrowing, capital and dividend requirements of the agency (in particular, the need to renew or increase relevant assets);
- the need to promote competition in the supply of the services concerned;
- the social impact of the determination; and
- the standards of the services.

IPART also undertook a review of charging by NMUs and produced the Pricing Principles for Local Water Authorities (the principles) to be applied to them.

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<sup>51</sup> Dungog Council, which is the eighth largest customer of HWC, and is treated as a large customer, and a small village of 100 connections which is part of the Mid Coast Water area of supply.

<sup>52</sup> Independent Pricing and Regulatory Tribunal Act, 1992, section 15.

Relevantly, the principles endorsed the application of competitive neutrality where appropriate (Recommendation (R) 2.2), and supported the view that all local water authorities should urgently move to recover operations, maintenance and administration costs (R 4.1). In the medium term the Tribunal generally supported the achievement of minimum business cost recovery as defined by the COAG Expert Group (i.e., incremental costs, R 4.2) and considered that positive real rates of return can be appropriate in choosing and charging for new investments in water services (R 4.3). The Tribunal also noted its preference for a simple two part tariff with the usage component based on the marginal cost of supply (R6.2), although remarking that in a very few water supply systems there may be little gain in terms of efficiency from moving to this system (R 6.3).

### Asset valuation

As regards the valuing of the assets, the *Line in the Sand* (LIS) approach, developed jointly by Treasury, IPART and New South Wales Water Industry Working Group, is integral to pricing of water. LIS involves determining a value for a water supply agency's existing asset base by discounting expected future cash flows by the cost of capital; it effectively:

*'writes down the value of the GTEs asset base relative to its depreciated replacement costs. It assumes that a GTEs assets are worth no more than the [net present value] of the service potential from these assets discounted at the opportunity cost of capital.'*<sup>53</sup> (p12)

Future expenditure on new assets is to be recovered at full economic cost including WACC. The departure from the Expert Group's advice on asset valuation (the preferred deprival value methodology) is explained by the explicit recognition of past investment practices that preceded the strategic framework. In addition, all costs incurred after *drawing the line in the sand* are fully recovered, including the opportunity cost of capital.

### Financial performance

As regards SWC & HWC, snapshots of the financial performance for 1996-1997<sup>54</sup> are as follows:

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<sup>53</sup> New South Wales Treasury report *Valuation of Infrastructure Assets for Pricing Purposes* (September 1997), part 3.2.

<sup>54</sup> From IPART mid term reviews.

**Table 10.2.1 Financial performance of SWC and HWC, 1996-1997**

<u>Measure*</u>	<u>SWC</u>	<u>HWC</u>
Total Revenue	1201	135
Operating expenditure	662	65
Depreciation	175	28
EBIT	364	43
Interest	187	7
Profit before tax (includes abnormal items)	177	54
Tax or equivalent	99	12
Dividend	78	26

\* all figures in \$million

HWC and SWC earn real rates of return on assets of around 2 per cent.<sup>55</sup>

As regards GCC and WSC, the IPART determination indicates that in 1998-1999, these providers are estimated to have rates of return of 2.6 per cent and 2.7 per cent respectively. It appears from the determination (paragraph 5.3.1 of both determinations) that neither authority is subject to a TER. It is noted that the Council was informed that GCC may not be complying with intent of the IPART determination and that this will be reviewed by IPART and any adjustments made in the July 1999 price determination.

The July 1997 Department of Local Government booklet '*Pricing and Costing for Council Businesses – A Guide to Competitive Neutrality*' (the Competitive Neutrality Guide) noted that water supply and sewerage services (for NMUs) should be regarded by Councils as businesses. For those water businesses that have a turnover of greater than \$2 million (Category 1 businesses) the Competitive Neutrality Guide required that they be corporatised, apply full cost attributions, make CSOs explicit and operate in the same regulatory framework as private business. For those businesses with turnovers of less than \$2 million (Category 1 businesses) there is no requirement to corporatise and there is more flexibility as regards cost attribution. The Competitive Neutrality Guide provides information or guidance concerning the following relevant matters:

- that the pricing policy for water businesses will include a reliable allocation of both direct and indirect costs;

<sup>55</sup> Rate of return = EBIT/Average fixed assets, COAG Stocktake Report by SWC and HWC, 8/98.

- that TERs, debt guarantee fees and a RoR on capital should be included in the pricing policy where relevant;
- that regard should be had to the IPART principles; and
- that councils will need to make subsidies for both categories explicit.

The RoR formula for local government businesses is expressed as operating result before capital amounts/written down replacement cost of property, plant and equipment. The Guide noted that as regards water businesses, a different context having regard to the IPART Pricing Principles, is appropriate.

The December 1997 New South Wales annual report notes that the NMU sector also achieves positive rates of return on the replacement cost of assets. At a bilateral meeting between Council and New South Wales officials on 19 October 1998 New South Wales officials advised that 80 per cent of NMUs achieve a positive RoR averaging 2.5 per cent. It was noted that full cost recovery may be impossible for some towns with declining populations.

The 1995-1996 *New South Wales Water Supply and Sewerage Performance Comparisons* indicates that the majority of NMUs returned positive rates of return on water and sewerage,<sup>56</sup> ranging from about 7.5 per cent (Kempsey) to about -5 per cent (two unnamed councils with populations of less than 1 500 and 1 501-5 000 respectively). The median real RoR for water supply was 2.1 per cent and for sewerage was 2.8 per cent. The report notes that a large number of councils had a negative operating sales margin for sewerage. These councils should review their charges to ensure they recover total costs.

### **Further information provided to the Council**

In further information provided to the Council (18 May 1999), New South Wales advised that all NMUs are at least recovering operation, maintenance and administration costs. Department of Local Government comparative information on performance notes that average water service revenue for all categories of local government exceeds water service costs.

Legislation<sup>57</sup> requires separate accountability for water and sewerage rates and for the purposes of rate pegging local government's general income charges for water and sewerage services are excluded. NMU assets have been priced at current replacement cost using prices derived from a database of competitive tenders<sup>58</sup>. Local governments are encouraged (via financial incentives) to prepare strategic business plans for water and sewerage services covering the next 20 years; plans for 83 (of 126) NMUs have

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<sup>56</sup> Parameter:  $((\text{total revenue} - \text{grants for acquisition of assets} - \text{total expenditure} + \text{interest expense} - \text{interest income}) \times 100) / (\text{written down replacement cost of property, plant and equipment})$ .

<sup>57</sup> Section 409, Local Government Act.

<sup>58</sup> The Reference Rates manual is indexed annually and a full revaluation is undertaken every five years.

been prepared. The financial plan is used to negotiate levels of customer service at agreed annual charges and demonstrate financial viability.

As regards those service providers with more than 10 000 assessments information provided is summarised at Attachment 1. In addition, the following relevant information was provided:

- Local governments supplying about 5 per cent of NMU water have a negative RoR on water and/or sewerage services.
- 3 of the 10 *sewerage only* local governments, with a turnover of about \$1.2 million have a negative RoR.
- 2 of the 8 *no sewerage* local governments, with a turnover of \$2.84 million have a negative RoR. Central Tablelands has a turnover of \$2.74 million and a negative RoR of 0.9 per cent. There is a pay for use tariff structure.
- Albury has a -0.6 per cent RoR on water assets and 7.1 per cent RoR on sewerage assets. Broken Hill has a 0.7 per cent RoR on water assets and a -1.1 per cent return on sewerage assets (RoR on water business assets 0.2 per cent). Goldenfields has a -0.8 per cent RoR on water assets.

The following information is provided concerning the two remaining sizeable water and sewerage providers with negative rates of return:

<b>Relevant indicator</b>	<b>Bourke Council</b>	<b>Greater Lithgow City Council</b>
Water consumption	2 530	2 460
Water supply turnover	\$0.7million	\$3.17million
Sewerage turnover	\$0.48million	\$1.88million
Economic RoR	-5.4 per cent	-2.9 per cent

In further information provided to the Council<sup>59</sup> it was noted that local government businesses pay state charges but are not subject to Commonwealth taxes or tax-equivalents. New South Wales noted that the question of TERs was yet to be resolved at a national level and that it was preferred to address the issue through a national process.

### **Council Comment**

The Council notes that there has been substantial progress in relation to the implementation of full cost pricing in New South Wales. The Council is of the view that the regulation of pricing by IPART has ensured both a consistent approach and integrity in the price setting process. This integrity is evidenced, for example, by the reduction in SWC sewerage charges in the mid-term review because of forecasting

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<sup>59</sup> 24 June 1999.

inaccuracies. The transparent process, detailed reasons and separation of prices regulator from monopoly service provider are strengths of the IPART process.

The Council is satisfied that HWC and SWC:

1. meet operating, maintenance and administration costs;
2. meet interest costs;
3. pay tax or a tax equivalent;
4. pay a debt guarantee fee;
5. pay a dividend to government; and
6. earn a real RoR on capital.

As regards the valuation of assets, the Council notes that while the method adopted by New South Wales is not strictly in accordance with the advice of the Expert Group, nevertheless the adoption of this approach will result in a lowering of the upper band of pricing, and will not result in the water monopolies recovering more than monopoly revenues. The Council is satisfied that the approach is consistent with the spirit of full cost recovery.

The Council is therefore satisfied that, in respect of urban water authorities, full cost recovery has been substantially implemented.

The same can be said of GCC and WSC with the exception of payment of Commonwealth taxes or a TER and a dividend to government.

In respect of other NMUs, the Council notes that the IPART guidelines and Local Government Guide are on the whole consistent with the strategic framework for pricing reform.

The information provided by New South Wales satisfies the Council that in large part NMUs are attaining full cost recovery as required by the framework. In particular, large local government water and wastewater businesses are on the whole achieving a positive economic RoR on assets. The Council is satisfied that the asset valuation method employed by New South Wales NMUs is both substantially independent and appropriate.

The Council also notes that the New South Wales assurance that all local government water and wastewater businesses are meeting the costs of operating, maintenance and administration costs from revenues. Although NMU businesses are subject to state charges, they are not presently subject to a full TER regime.

The Council considers that the various mechanisms outlined by New South Wales to encourage full cost recovery provide considerable incentive to local governments to meet reform commitments.

While the Council is satisfied that the reform commitments for the second tranche have been in large part met, it will continue to monitor the further implementation



of full cost recovery, including the implementation of a full TER regime for NMUs, prior to the third tranche assessment.

**10.2.2.2 Jurisdictions must implement consumption based pricing. Two part tariffs are to be put in place by 1998 where cost effective. Metropolitan bulk water and wastewater suppliers should charge on a volumetric basis.**

Jurisdictions are to apply two part tariffs to surface and groundwater comprising a fixed cost of access component and a volumetric cost component.

Metropolitan bulk water and wastewater suppliers must establish external charges to include a volumetric component or two-part tariff with an emphasis on the volumetric component to recover costs and earn a positive real RoR

### **NSW arrangements**

#### **Non-bulk water and sewerage charges**

##### **IPART**

IPART has made determinations in respect of access and usage charges for SWC and HWC.<sup>60</sup> The marginal cost of service provision was considered by IPART when determining the respective components.

As regards SWC water usage revenue as a proportion of total revenue has risen from 21 per cent in 1989 to 76 per cent in 1997. Reform at SWC has resulted in an 85 per cent reduction (\$357 million) in the revenue raised from property taxes and the remaining elements of the charging system for water and sewerage services scheduled to be eliminated by the year 2002. This program has been endorsed by IPART. As at the second tranche, remaining property value based tariffs are estimated to be \$61 million and are transparently published by IPART. To the extent that the usage charge exceeded the marginal cost of supply, IPART's determination noted that it may be thought of as including a component to recover the environmental costs associated with the storage, provision and use of water.

Additional information provided by New South Wales noted that those tariffs partly based on property tariffs had the following elements: a service charge; a property value based charge; and a usage charge. The revenue collected from the property value based charge was a small component of the total amount collected.

HWC has a usage and access or service charge in respect of both water and wastewater determined by IPART. Implicit in the determination is the consideration of the marginal cost of access and supply. The IPART determination noted a HWC submission that, in respect of wastewater usage charges, these were frequently criticised as being little more than an additional, but poorly understood water-use charge. IPART determined to reduce this aspect of the HWC tariff, increase the water usage charge and increase the sewerage

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<sup>60</sup> IPART medium term price paths, 7/96.

charge. In part these adjustments reflected the desire to avoid a cross-subsidy from the water business to the sewerage business.

The GCC and WSC water businesses also have two part tariffs set by IPART. GCC structures its tariff to include an access and base allowance (200 kL) charge and an additional charge (per kL) for usage above the base allowance; the average water consumption for GCC customer is 220 kL. WSC has a similar tariff structure. New South Wales has advised the Council that this prepaid allowance will be eliminated from 1 July 2000; some correction is required in respect of pensioner rebates prior to its elimination.

## NMUs

New South Wales advised in the 1998 annual report that more than 40 per cent of NMUs have implemented two part tariffs. The 1995-1996 *New South Wales Water Supply and Sewerage Performance Comparisons* notes the DLWC's opinion that many councils are under-estimating the true cost of their water supply. Table 2 of that report noted that while twenty-four councils used a two part tariff, another twenty councils employed an inclining block tariff and a further seventy councils provided an annual allowance with a volumetric tariff for usage in excess of the allowance.

Information provided to the Council in December 1998 as part of the assessment process<sup>61</sup> noted that the forty-seven out of one hundred and eighteen NMUs audited use two part tariffs. Those that did not represent a small percentage of all water used (only seventeen having an annual turnover of more than \$2 million per annum).

New South Wales has advised<sup>62</sup> that most of the remaining NMUs plan to implement two part tariffs although for 10 per cent of NMUs, two part tariffs will not be cost effective. It is noted that the IPART NMU pricing principles prefer an usage component in two part tariffs that reflects the marginal cost of supply.

Additional information provided to the Council by New South Wales noted tariff structures for NMUs with in excess of 10 000 connections as set out in Attachment 2. In addition, the following information was provided:

- 64 NMUs (55 per cent numerically, 70 per cent of financial turnover and water diversions, up from 17 per cent numerically in 1993) have pay for use tariffs.
- 9 NMUs with a water business with a turnover of >\$2 million have not committed to adopting a two part tariff. Some of these have reform proposals developed for consideration of relevant local governments prior to 30 June 1999. Others are gradually reducing the free allowance over time.

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<sup>61</sup> This document, entitled *New South Wales NMU summary data* is unreferenced, undated and does not provide information as to what period of time it relates to.

<sup>62</sup> October 1998 meeting.

- 13 NMUs with a turnover of \$1-2 million have not committed to adopting a two part tariff.
- 30 NMUs with a turnover of <\$1 million have not committed to adopting a two part tariff.

New South Wales has estimated that about 35 NMUs could justifiably be exempted from pricing requirements including: five moderate sized towns for which domestic customers are not metered and there are no capital works required to augment supply; and about 30 small towns (less than 2 000 persons) where the costs involved in metering, analysis and development of the pay for use tariff and negotiating with customers would be greater than the benefits achieved.

Seven moderate sized towns are unmetered: Bourke is to be provided financial assistance towards the supply cost of meters; Brewarrina proposes to install meters within three years; Corowa proposes to install meters in conjunction with the construction of new water treatment works; and Griffith is presently installing meters. All these NMUs will be in a position to implement pay-for-use tariffs after metering is carried out.

Forbes (population: 8500) has a *green oasis* policy and is not fully metered and unlikely to be so in the near future.

Balranald, Denilquin, Murrumbidgee and Walgett (population: 18 000) at present have no plans to install meters. These towns draw water directly from river flows and New South Wales states that it would not be cost-effective for them to be metered unless augmentation to the present supply is proposed, as the capital and operating cost of metering would not be counter-balanced by savings.

New South Wales has noted that the Government will strongly encourage relevant NMUs to implement pay for use tariffs. Initiatives include issuing step-by-step guidance to develop and implement a pay-for-use tariff. The Minister will shortly issue guidelines for NMUs on implementing IPART principles.

In a further response to the Council<sup>63</sup>, New South Wales noted that seven local governments with water businesses greater than \$2 million per year, 14 local governments with businesses between \$1 million and \$2 million and 30 local governments with water businesses valued at less than \$1 million have not adopted IPART recommendations of a two part tariff. It is proposed to negotiate on a case by case basis with those local governments of a significant size which have made little or no progress towards an appropriate tariff structure. This approach would mean considering larger water businesses first.

### **Metropolitan Bulk Water Pricing**

SWC has pricing for bulk water set by IPART as part of its general price determination. The price differentiates between differing water qualities and is charged on a volumetric basis to reflect the full value of the water provided,

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<sup>63</sup> Letter dated 24 June 1999.

including a marginal capacity component reflecting the cost of the next augmentation. SWC provides bulk water services through its wholesale subsidiary business<sup>64</sup> to its retail subsidiary business. A two-part charge (fixed and variable component) covers the costs and includes a return on assets.<sup>65</sup> SWC has noted<sup>66</sup> that some limited contractual arrangements do not return positive rates of return and are not the subject of IPART determinations; on expiry of the contractual arrangements SWC intends to ensure new arrangements reflect the water reform principles.

There is no separate determination for the provision of bulk water by HWC, although large water users (in excess of 1000 kL per year) are charged a discounted water rate which the Tribunal noted avoids adverse impacts on residential customers with higher water use.

The 1998 New South Wales Annual report noted that for both SWC and HWC, pricing provides for a positive real rate of return on bulk water assets.

### **Metropolitan bulk wastewater pricing**

SWC has in place a two-tiered system for sewerage charges: a flat charge for residential and low-discharging non-residential properties (based on a *deemed* discharge of 180 kL of waste per year); a volumetric charge for non-residential properties discharging in excess of 500 kL. In addition an access charge (assessed on the basis of the water meter fitted) is levied. Property value-based charges may also be made against non-residential properties, although they are being phased out. In addition, trade waste charges are levied through negotiated agreements that reflect both the volume and concentration of pollutants; the charges are on a volumetric basis.<sup>67</sup> Sewerage charges are set by IPART and reflect submissions from SWC proposing charges reflecting costs associated with collection, transportation and treatment of wastewater.

HWC applies sewer use charges to both the residential and non-residential sector, the charges based on volume (the discharge factor assumed to be 50 per cent for residential customers) and structured to recover the marginal cost of collecting, transporting and treating waste of domestic strength. In addition trade waste charges are applied to non-residential properties discharging wastes in excess of domestic strength, the charges reflecting the strength of the waste.<sup>68</sup> All properties are charged sewerage access charge assessed on the basis of the water meter fitted. Sewerage charges are set by IPART.

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<sup>64</sup> The reforms noted under *Institutional Separation* will result in bulk water provision being transferred to the Sydney Catchment Authority.

<sup>65</sup> SCARM Taskforce review, Dec 1997.

<sup>66</sup> COAG Stocktake Report.

<sup>67</sup> COAG Stocktake Report.

<sup>68</sup> COAG Stocktake Report.

### **Council Comment**

The Council notes that, as with full cost recovery, New South Wales has made substantial progress in implementing consumption based pricing. This process is being facilitated by IPART and evidenced by the regard had to the marginal cost of water supply in determining supply charges.

Where pricing indicates that some urban water customers are either partly based on property values (as is the case with some SWC customers) or alternatively the volumetric component does not reflect marginal costs and makes up only a small part of the total charge (as is the case with GCC and WSC customers who have a base allowance that is almost equal to the average water consumption) a path to remove these charges has been clearly identified.

The IPART Pricing Principles for NMUs reflect the strategic framework requirements for consumption based pricing. The information provided to the Council indicates the strong commitment of many local governments to implement two part pricing in many cases.

There are, however, significant water businesses that have not met reform commitments. For example, for the NMUs with more than 10 000 connections:

- 49 000 assessments/119 000 persons have water tariffs including a property value component.
- 106 000 assessments/238 000 persons have water tariffs including a base allowance ranging from 75-455 kL.
- 82 000 assessments/200 000 persons have sewerage tariffs based on property value.

The Council considers that pricing reforms need to be promoted in these NMUs as a matter of priority. New South Wales has committed to negotiating on a case by case bases with the local governments that have made little to no progress towards appropriate tariffs. The Council will monitor the further implementation of pricing reform for these local governments prior to the third tranche assessment.

As regards both metropolitan bulk water and waste water pricing, the Council concludes that there is an emphasis on volumetric charging. As regards tradewaste water, the pricing shows the increased sophistication of qualitative pricing to reflect the higher cost of service provision for heavily polluted water.

#### **10.2.2.3 Jurisdictions are to remove cross subsidies, with any remaining cross subsidies made transparent (published).**

A cross subsidy exists where a customer pays less than the long run marginal cost and this is being paid for by other customers. 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, pricing and investment outcomes. To achieve the COAG objective, potential cross-subsidies must be made

transparent by ensuring the cost of providing water services to customers at less than long run marginal costs is met:

- as a subsidy, a grant or CSO; or
- from a source other than other customer classes.

## **NSW arrangements**

### **IPART**

In its price determinations for SWC, HWC, GCC and WSC IPART has contributed to and documented progress on the elimination of cross-subsidies by: significantly reducing residential and non-residential property-value based charges for water and sewerage services; publishing remaining cross-subsidies and charting a process to eliminate such charges.

The 1998 New South Wales Annual Report noted that the removal of property value-based charges as the primary source of revenue has had a considerable impact on the reduction of cross-subsidies. For example, by the year 2002 the proportion of revenue to SWC from non-residential customers will have fallen to 30 per cent of total revenue; in 1992-93 this sector accounted for 24 per cent of water consumption, 6 per cent of properties served, and contributed 44 per cent of revenue. In 1993 the cross subsidy from non-residential to residential customers was estimated to be \$300 million per annum. This will be reduced to approximately \$61 million per annum in 1999-2000 and eliminated by the year 2002. The cross-subsidy is transparent and published by IPART.

IPART has noted that HWC has eliminated all property based tariffs and water and sewerage charges for residential and non-residential customers are now the same. As a result non-residential revenue had fallen by 20 per cent in real terms between 1992 and 1995.

Similarly, GCC and WSC have removed property value-based pricing. Remaining price discriminations (for example, the treatment of strata titled units with a single master meter attached in WSC, the base allowance in tariff structures in GCC and WSC) were the subject of comment by IPART in 1996, and should be removed from July 2000.

### **NMUs**

IPART noted in the July 1997 *Pricing Principles* document that under then current pricing arrangements, there was significant cross-subsidisation of water services. IPART, while re-iterating its view that CSOs are issues of government policy, noted that any subsidies should preferably be funded through explicit and transparent payments. IPART noted that cross-subsidies were likely to be largest and least transparent for communities which have retained property value based charging accompanied by pre-paid water allowances. IPART recommended that the implementation of user-pay pricing should eliminate any significant cross-subsidies.

The 1998 Annual Report noted that the application of IPART's pricing principles for local water authorities is a crucial first step towards systematic reform and the removal or transparency of cross-subsidies in the NMU sector.

New South Wales has noted that NMUs water and wastewater businesses are required to identify and either eliminate or justify cross-subsidies through transparency and CSOs. Elimination of significant cross-subsidies between classes of customers is proceeding with the adoption of consumption based pricing and over 75 per cent of NMU water service revenue will be subject to consumption based pricing from 1999-2000. The 25 per cent of NMU water suppliers and 35 per cent of NMU sewerage providers with a land value component in charging structures will be strongly encouraged to remove any land value component from their charging for each of water supply and sewerage within 2 years.

In a further response to the Council<sup>69</sup>, New South Wales proposed to negotiate on a case by case basis with those local governments of a significant size which have made little or no progress towards an appropriate tariff structure. This approach would mean considering larger water undertakings first.

### **Council Comment**

The progress of SWC and HWC in removing cross-subsidies is both substantial and illustrative of the significant benefits that accrue when pricing reflects the cost of service provision rather than the value of property. Although SWC still has some way to go to complete the transfer to full consumption based pricing, the remaining cross-subsidy is both transparent and temporary. HWC has achieved full consumption based pricing.

In addition, there has been progress in removing cross-subsidies in GCC and WSC, and a path to remove the generous base allowance included in water tariff structures.

In considering the performance of the NMU sector, the Council notes the considerable progress of local governments on implementation of tariff reform. However, significant businesses still retain pricing structures that suggest cross-subsidisation between customer classes. The Council considers that pricing reforms need to be promoted in these NMUs as a matter of priority. The Council again notes the commitment of New South Wales to negotiate on a case by case basis with the local governments that have made little to no progress towards appropriate tariffs. The Council will monitor the further implementation of pricing reform for these local governments prior to the third tranche assessment.

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<sup>69</sup> Letter dated 24 June 1999.

#### 10.2.2.4

**classes of customers at less than full cost, this must be fully disclosed and, ideally, be paid to the service deliverer as a community service obligation.**

All CSOs and subsidies must be clearly defined, well targeted, explicit and transparent, and the departure from the general principle of full cost recovery must be justified.

#### NSW arrangements

The 1998 New South Wales annual report noted that metropolitan water agencies receive CSO funding from the Budget, primarily for pensioner rebates and exemption of certain properties (for example, schools/charities) from payment of access charges. The cost of the program is made transparent through IPART process and annual Statements of Corporate Intent made with Treasury. The payments are fully accounted for and made to the water suppliers as CSOs in accordance the Government's Social Policy Program.

NMUs are required, under the Local Government Act, 1993, to reduce water supply and sewerage charges for eligible pensioners by 50 per cent up to a maximum of \$87.50 per annum. Local governments are re-imbursed for this revenue reduction by the Department of Local Government.

In addition, the New South Wales Government provides financial assistance<sup>70</sup> in the order of \$50 million to local governments for backlog water and sewerage capital works. This applies only to backlog works as at January 1995. The works are required to bring services up to environmental to public health standards at this time and the maximum assistance is 50 per cent of capital costs.

#### Council Comment

The Council is satisfied that New South Wales has a number of clearly defined and well targeted CSOs, such as pensioner rebates, the removal of access charges for schools and charities and specific backlog capital works for NMUs. In addition, the CSOs are transparent and funded by government rather than paid for by other water users.

**10.2.2.5 Publicly owned supply organisations should aim to earn a real rate of return on the written down replacement cost of assets for urban water and wastewater.**

Jurisdictions are to have achieved progress toward a positive real rate of return on assets used in the provision of all urban water supply and wastewater services.

#### Council Comment

The financial performance of the water industry in New South Wales has previously been discussed (see heading *Financial Performance*). It is clear that SWC, HWC,

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<sup>70</sup> A direct grant tied to specific capital works.



GCC and WSC all achieve positive rates of return on the written down replacement costs of their assets.

In addition, most NMUs achieve a positive RoR on assets<sup>71</sup>.

Having regard to the information provided, the Council is satisfied that metropolitan and most NMU supply organisations do earn a positive RoR on the written down replacement costs of assets.

The Council notes that it will continue to monitor the rates of return for NMUs closely prior to the third tranche assessment.

## **Rural Water Supply and Irrigation Services**

**10.2.2.6 Where charges do not currently cover the costs of supplying water to users (excluding private withdrawals of groundwater),<sup>72</sup> jurisdictions are to progressively review charges and costs so that they comply with the principle of full cost recovery with any subsidies made transparent.**

Jurisdictions should provide a brief status report, consistent with advice provided to ARMCANZ, on progress towards implementation of pricing and cost recovery principles for rural services.

The Council will assess jurisdictions as having complied with the pricing principles applicable to rural water supply where jurisdictions:

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

## **Council Comment**

Although this is a third tranche assessment issue, the Council notes the referral of bulk water pricing by the Water Administration Ministerial Corporation to IPART. Pricing determination for monopoly service providers by an independent regulator is an approach commended by the Council as both consistent with the content and spirit of the strategic framework. The Council notes information provided indicates that, end of June 2000, cost recovery will be 83 per cent for regulated surface water, 87 per cent for unregulated surface water and 60 per cent for groundwater.

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<sup>71</sup> New South Wales has advised that the average rate of return is about 2.4 per cent.

<sup>72</sup> Private withdrawals of groundwater include private providers and small co-operatives who extract water from bores for private use, but does not include large co-operative arrangements (including trusts) that act as wholesalers supplying water as a commercial venture and that are subject to control or directions by government or receive substantial government funding.

**10.2.2.7 Jurisdictions are to conduct robust independent appraisal processes to determine economic viability and ecological sustainability prior to investment in new rural schemes, existing schemes and dam construction. Jurisdictions are to assess the impact on the environment of river systems before harvesting water.**

Policies and procedures must be in place to robustly demonstrate economic viability and ecological sustainability of new investments in rural schemes prior to development. The economic and environmental assessment of new investment must be opened to public scrutiny.

Jurisdictions must demonstrate a strong economic justification where new investment is subsidised.

### **NSW arrangements**

The New South Wales Weirs Policy has as its goal: to halt and, where possible, reduce and remediate the environmental impact of weirs.<sup>73</sup> Principles adapted in support of this goal include that the construction of new weirs, or enlargement of existing weirs, shall be discouraged. In this respect notes that a proposal will not be approved unless it maintains the essential social and economic needs of the affected community.

New South Wales has also noted that weir approvals require a socio-economic assessment:

- the Environmental Planning and Assessment Act requires an environmental assessment which may include the costs and benefits of the proposed structure; and
- Part 2 of the Water Act which requires the Ministerial Corporation to consider socio-economic as well as environmental impacts of the work.

The Water Management Legislation Amendment Act 1997 has legislated that ecologically sustainable development principles be applied in water decisions.

New South Wales advised<sup>74</sup> that an economic appraisal is required as a prerequisite for government funding of capital projects (new or existing) above \$0.5 million including identification of options for capital investment and identifying costs and benefits associated with the options. In addition the *Environmental Planning and Assessment Act 1979* requires environmental impact statements.

### **Council Comment**

The reforms ushered in by the Weirs Policy and the *Water Management Legislation Amendment Act 1997* demonstrate a strong commitment by New South Wales to ensuring that new investments in river infrastructure will only be undertaken in appropriate circumstances. The Council would prefer that the Weirs Policy be

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<sup>73</sup> *New South Wales Weirs Policy* DLWC August 1997.

<sup>74</sup> New South Wales Annual Report on the application of National Competition Policy for the year ending December 1997.

legislated and will continue to monitor this matter. In conjunction with other reforms to water licensing (outlined later in the paper), the Council is satisfied that, for the second tranche assessment, this reform commitment has been met.

#### **10.2.2.8**

##### **management of irrigation areas to local bodies subject to appropriate regulatory frameworks.**

All impediments to devolution must be removed. Jurisdictions must demonstrate that they are encouraging and supporting devolution of responsibility, including through education and training.

##### **NSW arrangements**

New South Wales advised that irrigation schemes were managed under semi-autonomous financial and managerial accountability within DLWC since 1979.<sup>75</sup> The SCARM Taskforce review of New South Wales progress on reform commitments (1997) notes that all government irrigation areas have been either privatised or corporatised. The privatised companies are fully accountable for all financial management and investment decisions and prices set by the authorities are passed on to irrigators through two part tariffs.

##### **Council Comment**

The Council is satisfied that management of the majority of irrigation schemes has been devolved to local bodies made up of constituent irrigators. The Council notes that where this has not occurred corporatisation of the irrigation schemes should have resulted in customers having a greater input into decisions made. On the information provided the Council is satisfied that this reform commitment has been met.

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<sup>75</sup> New South Wales Annual Report on the application of National Competition Policy for the year ending December 1997.

## **B10.2.3 REFORM COMMITMENT: INSTITUTIONAL REFORM**

### **Institutional Role Separation**

**10.2.3.1 As far as possible the roles of water resource management, standard setting and regulatory enforcement and service provision should be separated institutionally by 1998.**

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.

### **NSW arrangements**

#### **Generally**

As regards water resource management in New South Wales generally, the Council has been advised of the following responsibilities:

**Table 10.2.2 Institutional arrangements in New South Wales water industry**

<b>Agency</b>	<b>Function/Regulation</b>
Department of Land and Water Conservation (DLWC)	Water management planning, policy and guidelines, resource assessment and technical support
National Parks and Wildlife Service (NPWS)	Responsible for some aquatic conservation areas
New South Wales Fisheries	Responsible for aquatic habitat protection and some aquatic fauna
Department of Agriculture	Encourages maximisation of on-farm water use
Department of Urban Affairs and Planning (DUAP)	Broad planning policies and guidelines for environmental assessment
Environmental Protection Agency (EPA)	Responsible for environmental policy, planning and guidelines for water and aquatic systems

An interdepartmental committee of the Chief Executive Officers of all these organisations (known as the Water CEOs) ensures a whole of government approach to water reforms.

In addition, the principle regulatory regime can be described thus: the EPA has regulatory functions as regards pollution and licensing of discharges, IPART regulates pricing, a Licence Regulator audits the operating licences for SWC and HWC and DLWC provides water licensing, permits and regulation. The Healthy Rivers Commission (HRC) provides independent advice on water quality and flow objectives.

## Metropolitan

Regulatory responsibilities in respect of water quality, plumbing and selected development approval powers resided with SWC prior to corporatisation. Prior to the contamination events that required *boil water* alerts to be issued in respect of water supplied by SWC (July-September 1998), the following regulatory mechanisms applied:

**Table 10.2.3 Institutional arrangements in New South Wales metropolitan water industry**

Agency	Function/Regulation
DLWC	Issues Water Extraction Licence
Licence Regulator (DUAP)	Audits Operating Licence (OL) <sup>76</sup> annually
IPART	Pricing of water
Department of Health (New South Wales Health)	Exchange of information concerning health matters Memorandum of Understanding (MoU)
EPA	Wastewater licence. Regulatory role in trade waste and sewerage treatment disposal

A similar regime is in place for HWC; a licence was issued in November 1998.<sup>77</sup> The licence regulates access to bulk water and establishes a range of monitoring and reporting arrangements.

The Council was advised that SWC's laboratory testing is supplied by Australian Water Technologies P/L (AWT), a wholly owned subsidiary with its own Managing Director, Board and business units that are legally and administratively separate from the bulkwater, retail and distribution businesses of SWC.

The Sydney water crisis and resultant inquiry by Peter McClellan QC (the Sydney Water Inquiry) exposed a number of weaknesses in the regulatory and structural settings surrounding SWC including:

- the responsibilities of SWC for both catchment management and service provision led to at least a perceived conflict of interest. The New South Wales government has legislated for a Sydney Catchment Authority (SCA)<sup>78</sup> to have responsibility for the catchment including ownership and operation of infrastructure and to supply bulk water to SWC;

<sup>76</sup> Issued by the Minister for Urban Affairs and Planning as Minister responsible for Sydney Water

<sup>77</sup> Water Sharing, the way forward. New South Wales Progress on the Water Reforms 1995 to 1998 (December 1998).

<sup>78</sup> To be fully operational by 1 July 1999.

- the ownership of AWT, which supplied testing results for regulators, by SWC led to at least a perception of conflict as regards its role in water testing. McClellan recommended that an independent testing laboratory undertake testing for regulatory purposes. New South Wales has advised that this matter is being reviewed by the Cabinet Taskforce on Water;
- weaknesses in the OL of SWC as regards both its negotiation and audit. McClellan recommended that the OL for SWC be developed at arms length from SWC and that the Licence Regulator be given enhanced powers as regards auditing of the OL. The Council notes the request by the Premier to IPART<sup>79</sup> to carry out public and stakeholder consultations and make recommendations on the terms of the OL for SCA and the terms of an amended or substituted OL for SWC to take effect from 1 January 2000;
- deficiencies in the content and scrutiny of MoUs between SWC and New South Wales Health as regards communication and decision making. Recommendations in this respect included that the decision to issue a *boil water* alert be vested in New South Wales Health (this has occurred via legislation) and that the MoUs be revived to include targets, timelines and review provisions and that the Licence Regulator be given power to audit MoUs. New South Wales has also noted that the recommendation as regards MoUs has been implemented; and
- McClellan noted that the OL Minister's power in respect of SWC was limited to requesting information concerning OL compliance and directing rectification of OL contraventions, and directing SWC to perform non-commercial activities. He recommended that the Minister have sufficient power to give a direction to SWC if this was in the public interest. Legislation has given effect to this recommendation, not only for SWC but also for HWC.

## NMUs

In its September 1996 *Pricing Principles for Local Authorities*, IPART endorsed the separation of the business elements of water services from any regulatory functions exercised by local authorities. IPART encouraged service providers to be as competitive and business-like as possible and that competitive neutrality principles should also be applied.

As noted previously, the July 1997 Department of Local Government booklet '*Pricing and Costing for Council Businesses – A Guide to Competitive Neutrality*' (the Competitive Neutrality Guide) provides that water supply and sewerage services should be regarded by Councils as businesses. For those water businesses that have a turnover of greater than \$2 million the Competitive Neutrality Guide required that they adopt a corporatisation model, apply full cost attribution, make explicit any subsidies paid to the business and operate within the same regulatory framework as private business. For those businesses with turnovers of less than \$2 million the requirement for a corporatisation model will be satisfied if the business is capable of being separately identified within the operations of the local government and has a separate internal accounting and reporting framework.

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<sup>79</sup> 19 April 1999.

New South Wales Officials advised in October 1998 that the NMUs have ringfenced their operations from council activities and are moving toward a corporatisation model with the larger schemes being targeted first. Full accounting separation was required from July 1998.

New South Wales has advised the Council that local government water supply and sewerage businesses comply with the requirements for corporatisation model as the businesses are financially ringfenced and have a separate accounting and performance reporting framework. They are maintained as separate entities, provide separate financial statements and moneys cannot be diverted from them for other purposes. In addition, as part of National Competition Policy reporting requirements commencing for the reporting period ending 30 June 1999 Councils are required to report separately on water and sewerage activities.

In further information provided to the Council<sup>80</sup> New South Wales noted that DLWC currently provides IPART with a performance report of each local government's water supply and sewerage businesses in the Annual Performance Reports, which are made public. Present reports disclose whether the local governments have pay-for-use pricing and whether land values are removed from annual charges. Reports in 1999-2000 and subsequently will include whether long-term financial sustainability of the business is demonstrated through publication of appropriate strategic business and long-term financial plans.

New South Wales also noted that Water and Sewerage Regulations under the Local Government Act are under review with the intention of separating the local government management and structural arrangements and the local government approval process into separate regulatory instruments. The local government approval process will move under the control of the Environmental Planning and Assessment Act as part of the processes of integrated approvals.

New South Wales believes that these regulations, together with improved reporting requirements, will establish the appropriate institutional and administrative framework for water reform in the NMU sector.

Further information provided to the Council detailed the role of local government in natural resources management, which is said to vary widely depending on functions delegated by the State Government. Specific powers of local government include management of planning functions including: management plans, local environment plans<sup>81</sup> and developmental control plans; water functions including service provision, stormwater management planning and development consents; and bushfire risk management (overriding authority with the Rural Fire Service).

In respect of plumbing services, it was noted that local government regulation of plumbing standards is constrained by State Government codes and standards and subject to appeal to the court.

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<sup>80</sup> 24 June 1999

<sup>81</sup> Created under the Environmental Planning and Assessment Act and which set basic rules for the use of private and public land.

## Rural Water

DLWC was established a separate (ring-fenced) water business entity, State Water, which commenced operations in September 1997 and holds responsibilities for operation of water delivery systems and maintenance of water infrastructure.<sup>82</sup> A business structure has been implemented allowing costing and water accounting on an individual valley basis. State Water has taken over responsibility for water use billing. The operating and water access authorities are being finalised.<sup>83</sup>

New South Wales has provided copies of draft Operating<sup>84</sup> and Water Access Authorities and stated that these create the required transparency of separation between regulator and service provider. In addition a Statement of Financial Intent is being finalised using the New South Wales Treasury corporatised business entity model.

At a meeting between Council Secretariat officers and New South Wales officials in October 1998, New South Wales advised that they believed that this form of structural separation was sufficient and that State Water had not been corporatised because the rural sector was still heavily subsidised. Price regulation would be supplied by IPART and water allocation rules set by River Management Plans developed by EPA and DLWC in consultation with users and signed off by Cabinet.

## Council Comment

As the Sydney water crisis graphically demonstrated, the failure to provide rigorous institutional separation can result in adverse outcomes for water consumers. The recommendations of the Sydney Water Inquiry provide a clear direction for the further institutional separation required for SWC in order to both clarify its objectives, remove conflicts of interest and protect the health of the public generally. The Council is satisfied that the recommendations provide for proper and rigorous monitoring of both SWC and SCA in their roles as water service providers. SCA's role as bulk supplier and manager of the catchment sits comfortably with institutional separation when the additional elements of independent price regulation and independent licence provision and regulation are imposed.

The Council will continue to monitor the separation of AWT from SWC. Although it is argued that the existing arrangement is sufficient, neither McClellan nor the Council are satisfied that it provides for both actual and perceived separation of this important and essentially regulatory function.

The implementation of reforms for HWC as regards Ministerial intervention in the public interest is appropriate. The Council does not regard this power as in any way conflicting with the separation of functions nor the corporatisation of either HWC or

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<sup>82</sup> Water Sharing, the way forward. Draft five year strategy for Water Management in New South Wales, 1999-2000.

<sup>83</sup> Water Sharing, the way forward. New South Wales Progress on the Water Reforms 1995-8 (December 1998).

<sup>84</sup> Requiring planning, customer service delivery and reporting according to existing standards that apply to all New South Wales state owned corporations.



SWC. The Council considers that a similar review of other institutional settings for HWC is appropriate in light of the crisis and will continue to monitor this matter.

The Council notes the information concerning the commercialisation/institutional separation as regards NMUs, including the comparatively large GCC and WSC water service providers. This information indicates clear separation of the water and wastewater service financial arrangements from other Council activities; this is particularly so where IPART is the price regulator.

The Council notes the proposed further public scrutiny of NMU pricing and financial management. In addition, existing regulatory arrangements are to be reviewed to further separate local government business and regulatory functions. Details of this have not been provided to the Council.

While the Council is satisfied that there has been progress on institutional reform in the NMU sector, it will carefully review new arrangements prior to the third tranche assessment to ensure rigorous separation of service provision from other functions.

As regards State Water, the Council is satisfied that a corporatised water service provider with the types of functions outlined would achieve a significant degree of institutional separation from DLWC. The additional information concerning the development of Operating and Water Access Authorities and a Statement of Financial Intent re-enforce separation of service provision and other functions. The Council notes that the present arrangements are probably sufficient to satisfy the strategic framework. The Council does note, however, its preference for a greater degree of Ministerial separation than the arrangements provide for and will seek to advance this matter with New South Wales prior to the third tranche assessment.

#### **10.2.3.2 Metropolitan service providers must have a commercial focus, whether achieved by contracting out, corporatisation, privatisation etc, to maximise efficiency of service delivery.**

Incorporate appropriate structural and administrative responses to the CPA obligations, covering legislation review, competitive neutrality, structural reform.

#### **NSW arrangements**

SWC was corporatised in January 1995 as an unlisted public company wholly owned by the New South Wales Government. The *Water Board (Corporatisation) Act 1994* provided for explicit environmental and public health objectives to have equal standing with commercial objectives.<sup>85</sup> SWC has advised<sup>86</sup> that since the early 1990s the private sector has been progressively involved in provision of contestable services such as mechanical/electrical maintenance, Build, Own and Operate (BOO) water treatment plants and an alliance construction contract with private sector partners. It was noted that in 1996-1997, 54 per cent of all operating and capital expenditure was contracted out where it enabled Sydney Water to reap the benefits of private sector involvement.

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<sup>85</sup> Report 5, chapter seven of the Sydney Water Inquiry, December 1998.

<sup>86</sup> COAG Stocktake Report.

HWC was corporatised as a state owned corporation in 1991 under the *State Owned Corporations Act 1989* (SOC Act). The SOC Act requires state owned corporations to have the principal objective of being a successful business. HWC has advised<sup>87</sup> of its structuring into three groups:

- a *core group* that manages large infrastructure, relations with Government and regulators and provision of human resource and accounting services;
- *service providers*, comprising three separate businesses that sell services to HWC and external markets. These are Hunter Water Australia (which sells water treatment, laboratory, engineering and survey and land information services), the Electrical and Mechanical Maintenance Unit and the Operations Unit; and
- the *customer services group* which deals with customer and call centres, customer surveys and community consultation.

It was noted that more than 84 per cent of the controllable costs (salaries, wages and materials etc. but excluding fixed items like depreciation) are subject to some form of market contestability or systematic benchmarking.

SWC and HWC borrow through Treasury Corporation at the market rate of interest.

As regards the implementation of competitive neutrality, it is noted that SWC and HWC are subject to independent prices oversight and are subject to TER (full Commonwealth and State taxes) and debt guarantee fees that varies in accordance with their respective credit ratings.

### **Council Comment**

The Council is satisfied that SWC and HWC have a commercial focus, achieved by corporatisation and contracting out, consistent with the strategic framework requirements. They appear on the whole to have been subjected to other CPA obligations such as competitive neutrality.

### **Performance Monitoring and Best Practice**

#### **10.2.3.3 ARMCANZ is to develop further comparisons of interagency performance with service providers seeking best practice.**

Jurisdictions have established a national process to extend inter-agency comparisons and benchmarking. Benchmarking systems are to be put in place for the NMU and rural sectors, “WSAA Facts” is to be used for major urbans, and service providers are to participate.

The Council will accept compliance for the three sectors subject to the Productivity Commission confirming consistency with the Report of the Steering Committee on National Performance Monitoring of Government Trading Enterprises, “*Government Trading Enterprises Performance Indicators*” (Red Book). The Productivity Commission has already confirmed the consistency of “WSAA Facts” for the major

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<sup>87</sup> COAG Stocktake Report.

urbans. The Council recognises the first reports for the NMU and rural sectors are likely to be a rough cut in the initial years.

### **NSW arrangements**

SWC, HWC, and GCC participate in the Water Services Association of Australia (WSAA) facts,<sup>88</sup> an annual performance monitoring report and SWC has participated in the United Kingdom Office of Water Services annual benchmarking study.<sup>89</sup>

NMUs participate in Annual Water Supply and Sewerage Performance Comparisons (the Annual Comparisons), collated by DLWC, although it is noted that the 1995-1996 report did not include twenty-five councils as they had not provided their returns. The 1995-1996 report noted the important role of the Performance Comparisons in enabling councils to compare trends in performance indicators and relative performance. In addition they are important for public accountability and required under NCP. They provide additional information about current use and assessing future needs of New South Wales country areas and ensure appropriate focus and targeting of assistance programs.

As regards rural water services, the New South Wales Annual Report in the Application of National Competition Policy for the year ending December 1997 notes that privatised irrigation companies must provide financial and management efficiency information for comparison purposes. The report also notes that New South Wales is assisting in the implementation of benchmarking for irrigation sectors for via ARMCANZ and the Steering Committee on National Performance Monitoring of GTEs.

### **Council Comment**

The Council is satisfied that there is performance monitoring and comparison of relevant water agencies through WSAA, DLWC and ARMCANZ mechanisms. The Council notes that it is aware of the participation of NMUs in the ARMCANZ performance monitoring project, being co-ordinated by WSAA.

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<sup>88</sup> WSAA facts, 1997-1998.

<sup>89</sup> COAG Stocktake Report.

## **B10.2.4 REFORM COMMITMENT: ALLOCATION AND TRADING**

**10.2.4.1 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.**

A 'comprehensive' system requires that a system of establishing water allocations which recognises both consumptive and environmental needs should be in place. The system must be applicable to both surface and groundwater.

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 the health of rivers. If legislation has not achieved final parliamentary passage, the Council will recognise the progress towards achieving legislative change during its assessment of compliance.

### **NSW arrangements**

#### **The existing systems of water licensing and trading**

*Issues in water access and use rights* (DLWC, December 1998) lists seven presently existing water rights:

1. non-specific, diffuse, unlicensed and non-tradable water *values* such as recreational water rights;
2. *permissions* which are specific, non-licensed and non-tradable, such as access to off-allocation<sup>90</sup> flows;
3. diffuse, specific and legislated (although unlicensed) rights that are non-tradable and without a fixed term, combining concepts of access to and use of water, such as riparian water rights and farm dams;
4. licensed, fixed term, specific rights closely linked to land title and combining concepts of access and use, such as area-based unregulated river water licences;
5. licensed, specific, fixed term rights which are volumetric, tradable and combine concepts of access and use, such as regulated water licences and some high yield bore licences;
6. licensed, specific, fixed term rights which are volumetric, tradable and separate concepts of access and use, such as water licences held by mining companies and corporate water licences; and

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<sup>90</sup> Off-allocation water is that made available to users during periods when the tributary streams entering regulated rivers downstream of dams or dam spills exceed users' demands or identified environmental needs. Extractions at such times are not accounted for against users' regulated allocations.

7. licensed, specific, fixed term rights which have controls on access and use regulatory structures, such as SWC and HWC licences and licences of irrigation trusts and corporations.

The *Water Administration Act 1986* vests in the Ministerial Corporation, a body set up by the Act, the right to the use and flow, and to control, of: water in rivers and lakes; water conserved by any works; water occurring naturally on the surface of the ground; and sub-surface water.

The *Water Act 1912* provides the main regulatory framework for New South Wales water rights. For example, it permits occupiers of land adjacent to rivers or lakes to exercise riparian rights and provides for farm dams (section 7). It provides for occupiers to apply for water licences (including terms, limitations and conditions as approved by the Ministerial Corporation (section 12)) to extract water for irrigation and other purposes (section 10). In addition, joint water supply schemes and group licences for private districts are regulated (Part 2, Divisions 4, 4A). The Act provides for permits to be issued to allow irrigation and other activities on areas of land not exceeding 4 hectares (section 18F). It also requires that a bore shall not be sunk, enlarged, deepened or altered except pursuant to a licence (sections 112, 113). It provides for a Water Management Licence to be issued to authorities (HWC is the only authority listed in the schedule) and authorises the holder to take and use water from any water source and to construct or use a water management work subject to the conditions of the licence and the provisions of the Act.

Part 2, Division 4B of the Water Act empowers the Ministerial Corporation to declare that water entitlements pursuant to a licence, permit or authority be subject to a volumetric water allocations scheme, to increase or decrease such allocations in times of surplus or shortage respectively (this power extends to all water extractions; section 22B) and that extractions are to be metered.

Part 3 of the Water Act provides for irrigation trusts to take and use water (the Irrigation Corporations Act also provides for trusts to be licensed to take water and supply to shareholders).

Part 5 of the Water Act deals with groundwater and provides for volumetric extraction and metering where ordered by the Ministerial Corporation and following the declaration of a restricted sub-surface water area. It provides for restrictions during shortages and allocation of surpluses (section 117E and 117F).

*Water sharing in New South Wales – access and use. A discussion paper* (April 1998) (the discussion paper) notes the present state of water licensing in New South Wales:

- there are over 60 000 water licences administered by DLWC, comprising 5 800 licences on regulated licences, 12 600 licences on unregulated systems and 40 000 high yielding groundwater licences (>20 ML per year, about 40 per cent of bores);
- regulated river licences are divided into the following categories: high security licences (full entitlement on in all but the most severe droughts); high flow licences (water extractions during major flow events); on allocation general security licences (annual allocation depending on water availability); off allocation general security licences (allocation when dam overflows of high flows

enter down stream storages). Individual irrigation licences are generally for a period of five years, town and industrial licences for ten years, irrigation schemes for fifteen years and urban water supplies for twenty years;

- unregulated river licences are effected by limiting pump capacity or specifying the area to be irrigated. Few licences are metered;
- groundwater licences must be metered and are subject to volumetric allocations; and
- conjunctive licences issued to some surface irrigators who are permitted to supplement reduced surface water allocations with groundwater access.

The discussion paper notes that due to licence extractions currently equalling or exceeding volumes that can be supplied or extracted without unacceptable environmental damage or impact on other users, embargoes are in place. The only option for new or expanding enterprises to is buying either an existing water licence or land with a licence attached. Temporary transfers (all or part of a single year allocation) have resulted in 200 000-700 000 ML of water being traded annually.

*Water Trading on Regulated Rivers – Benefits of Separation of Access and Use Rights* (undated, received from DLWC) notes that the existing licences deal with both water access and water use and in effect the Department is using the water licence to both define water access conditions and those relating to water use on land.

### **Proposed reforms**

The discussion paper proposes the replacement of the current water licences with:

- a water access right, established under legislation and wholly or partly transferable, which is defined as a fixed percentage of the water available for extraction at any one time; and
- a water use right, established under legislation and defined as a right to apply and use water at a specific location. Because it is site-specific the licence would not be transferable.

The advantages of this system, according to the discussion paper, include increased flexibility for water users and more explicit consideration of environmental protection requirements. Users would have the flexibility of accessing water from a number of sources (including surface and groundwater) with the total use coming under the one water use licence. This ensures the impacts of all water uses could be considered together permitting consistent and holistic management.

The discussion paper canvasses a number of options for security of tenure of licences including renewable limited term (every five years or longer term) access and use rights, rolling and permanent rights. Options concerning reviews include reviews occurring every five or ten years or as determined by the relevant river or groundwater management plan. In addition the discussion paper explores whether a water use right should be a prerequisite for an access right.

The paper also canvasses issues concerning the hierarchy of access rights and conversions of existing rights to water access and user licences. It looks at issues concerning riparian rights and small farm dam (less than 7 ML capacity). It canvasses issues of transferring water access rights including proposing either that rules for trading be articulated in river and groundwater management plans or alternatively that general rules be developed at a state level with more explicit rules applying in each valley and groundwater system as required. It also discusses issues of intervalley and interstate trading.

The discussion paper canvasses four options for dealing with sleeper and dozer licences: cancellation; restriction of access to periods of high flow; partial loss of unused entitlements; and full activation of licences.

In developing the issues surrounding access to water, the discussion paper canvasses the conversion of high security licences to general security. The discussion paper examines continuous accounting and capacity sharing arrangement for water entitlements. It traverses issues surrounding off-allocation water access (including separate licensing, access and transferability) and floodplain licensing, and proposes that water savings be dealt with by satisfaction of river health needs, increasing reliability or government trading in saved water.

As regards unregulated rivers, the discussion paper notes the move towards volumetric licences with maximum daily volumes and classification of licences into: Class A licences permitting access during low flow periods (no or minimal access would be permitted at these times); Class B licences permitting access during moderate flow periods; and Class C licences permitting access during moderate to high flow periods. The discussion paper identifies the a conversion process that involves: converting licences to a volumetric basis; assigning an access class; developing a river management plan including rules for trading; and linking access licences to river management plans.

The *Volumetric Conversions* pamphlet (DLWC, December 1998) outlines the following steps to convert existing rights to volumetric licences:

1. determining annual licence limits;<sup>91</sup>
2. determining daily flow shares. This process includes deciding the total volume of water that can sustainably be extracted in a catchment and sharing this amongst licence holders; and
3. establishing associated administrative and operational arrangements including water use monitoring, cost recovery, rostering and notifying users of daily flow conditions.

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<sup>91</sup> The formula used is: *Active Area* (number of licensed hectares with a history of irrigation) x *Zone Active Area* ('zone' is the climatic zone in which the licence is located) + *Inactive Area* (number of licensed hectares with no history of irrigation) x *Zone Inactive Area*. The Zone Active Area is based on a consideration of a regional theoretical crop water rate (ML/ha/yr.), water usage records and annual return data. The Zone Inactive Area may be less than this, especially in the Murray-Darling Basin.

The pamphlet notes that a steering group will be set up, including community and water user representatives. Trial data collection surveys, metering and interim flow sharing/rostering arrangements are presently being trialled.

New South Wales has advised the Council that unregulated rivers account for only 5-10 per cent of all surface water extractions. Substantial progress has been made on the design and policy underlying the conversion process. Development of conversion factors has balanced the need to bring volumetric conversions close to the Murray Darling Ministerial Cap volumes (see 10.2.4.2) while recognising existing economic production. Establishing volumetric conversions does not require significant legislative amendment (minor legislative amendment is required to remove area limitations) and is not dependent on water licensing reform.

The present timeframe is for the transition of all irrigation licences from area to annual volumes by July 2000, and the establishment of daily flow access conditions by July 2001. DLWC has also commenced the rollout of metering for all licences and establishing operations and compliance systems to allow new conditions to be implemented.

Groundwater issues are considered in the discussion paper. Groundwater aquifers are classified as being high, medium or low risk. Existing licences, which contained no volume restraints or specified an area of land that could be irrigated, are being converted to volumetric licences with an entitlement to a share as opposed to a specific volume. Groundwater management plans will set rules such as the total volumes of water that can be extracted and trading of access rights. The discussion paper also canvasses groundwater issues concerning: management of sleeper and dozer licences; licensing bores that are presently unlicensed<sup>92</sup>; splitting conjunctive licences into separate surface and groundwater access rights.

The farm dams policy<sup>93</sup> (effective from January 99) has been announced and replaces legislative restrictions on non-commercial farm dams of 7 ML to provide for a harvestable and non-transferable right for all landowners to collect 10 per cent of run-off each year. New South Wales has advised that: calculations to implement the policy have been completed and a series of state-wide maps are currently in production which will provide the legal basis for the harvestable right; and discussions with Parliamentary Counsel to implement the policy as regulation are underway.

The Water Management Legislation Amendment Act 1997 has permitted reforms in: requiring the application of ecologically sustainable development principles in water decisions; licensing HWC and SWC; providing new opportunities for water trading; and providing new powers for managing groundwater.

New South Wales advised the Council that the Government has stated that a comprehensive overhaul of the Water Act will be achieved by the end of 1999. The

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<sup>92</sup> New South Wales has advised that since 1983 all groundwater allocations have been volumetric and the present licensing system requires all bores which yield more than 20 ML a year to be metered. An estimated 95 per cent comply with this requirement.

<sup>93</sup> *Farm Dams Policy* (DLWC December 1998).



reform will be based on community feedback to the discussion paper and will result in a more equitable water access and use rights system. The Government has committed to legislating the prior right of environmental flows over consumptive use.

Complex issues concerning the proposed water sharing model are being resolved prior to embodiment in legislation, including a trial administrative separation of access and use rights. In addition, a review of water legislation recently developed in Australia and overseas, to assist in the development of new legislation, is currently being undertaken.

### **Council Comment**

The Council notes the thorough review of the present system of water entitlements by New South Wales. The splitting of water rights into access and user rights appears, on the information provided to the Council, to be New South Wales' preferred model, and the Council takes note of the advantages that this system is expected to deliver. The Council notes that some other jurisdictions may have set about defining water entitlements without this degree of sophistication. On the basis of information provided, the Council is satisfied that the reforms proposed have been subjected to very considerable consultation and commends this.

The significant policy and consultative phase of the development of New South Wales water entitlements has not at this stage been accompanied by significant legislative or other regulatory change. The Council notes the advice of New South Wales that there will be a comprehensive overhaul of water legislation by the end of 1999, and that the farm dams policy is presently the subject of consultations with Parliamentary Counsel.

The Council accepts that, in its present form, the entitlements for regulated rivers may be sufficient to satisfy the requirements of the strategic framework. The entitlements are separated from land title and have specification in terms of volume, a hierarchy of supply and transferability. Groundwater licences are metered and subject to volumetric allocations and may well be sufficient to meet mere reform commitments.

Unregulated river water entitlements, which New South Wales notes account for only a small proportion of extractions, remain at present linked to and dependent on the land title. Water extracted on unregulated rivers is at present not measured volumetrically but instead is determined by the area of the land to be supplied and/or the pump capacity extracting water. A volumetric conversion program has been commenced and arrangements for its implementation are advancing with a timetable for transition of irrigation licences by December 1999 and daily flow access conditions progressively developed, with high stressed rivers completed by June 2000.

Given the present state of water allocations for unregulated rivers, the Council is not satisfied that New South Wales has made sufficient progress to be regarded as having satisfactorily met this aspect of the strategic reform agenda. The Council is not therefore satisfied that there is a comprehensive system of water entitlements backed by separation of water property rights from land title and clear specification in terms of volume or transferability.

The Council notes its preliminary view that the proposed reforms are probably sufficient to meet the requirements of the framework, but would need to see any finally legislated water entitlements before arriving at a firm view.

The Council will undertake a supplementary assessment in June 2000 to satisfy itself that water legislation reform has been undertaken.

#### 10.2.4.2

**determining allocations of water and should have regard to the relevant work of ARMCANZ and ANZECC.**

**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. Where river systems are overallocated 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.**

**Jurisdictions are to consider environmental contingency allocations, with a review of allocations five years after they have been initially determined.**

Jurisdictions must demonstrate the establishment of a sustainable balance between the environment and other uses. There must be formal water provisions for surface and groundwater consistent with ARMCANZ/ANZECC "*National Principles for the Provision of Water for Ecosystems*".

Rights to water must be determined and clearly specified. Dormant rights must be reviewed as part of this process. When issuing new entitlements, jurisdictions must clarify environmental provisions and ensure there is provision for environmental allocations.

For the second tranche, jurisdictions should submit individual implementation programs, outlining a priority list of river systems and 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 Council for agreement, and to Senior Officials for endorsement. This list is to be publicly available.

It is noted that 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 allocations to the environment in all river systems which have been over-allocated, or are deemed to be stressed. By the year 2005, allocations and trading must be substantially completed for all river systems and groundwater resources identified in the agreed and endorsed individual implementation programs.

#### **NSW arrangements**

The information pamphlet '*Water reforms – securing our water future. Information for water users*' (September 1997) outlines proposed reforms to the New South Wales water industry.

The pamphlet notes the embargo on the issue of new licences for water extraction placed on all regulated (since the early 1980s) and unregulated rivers (since the setting of the cap on water extractions in 1995) in the Murray Darling Basin. Significant reforms in 1995 documented in the pamphlet include:

- delivery of water to the Macquarie Marshes and Gwydir wetlands;
- establishing the Healthy Rivers Commission to conduct inquiries into priority rivers;
- developing interim river water quality and flow objectives;
- referral of DLWC bulk water pricing to IPART; and
- setting up the Water Advisory Council (WAC) to advise on the implementation of reforms.

### Proposed reforms

The 1997 reforms introduced by the pamphlet aim to achieve clean, healthy and productive water use by:

Achieving a better balance in water use by more explicit and careful sharing of water between the environment and water users. The reforms in this respect include:

- specific sharing arrangements on regulated rivers. The pamphlet notes that all major regulated rivers are stressed and proposes consultation (through community based management committees including water users and conservation groups) to define environmental flow rules (reviewed annually with a major review before the end of five years) for providing an environmental share and an initial five year resource security for water users. The rules will be backed by licences and administration arrangements (such as the lifting on the moratorium on sleeper and dozer licences on regulated streams) and the growth in use will be balanced by a reduction in supply reliability to all users;
- the release of options for environmental objectives<sup>94</sup> covering river flows and water quality. The objectives establish quality and amount of water in rivers and timing and variability of flows. Reform objectives include a sustainable river and therefore rural sector, better habitats and more successful breeding for native fish and water birds, and healthy wetlands; and
- identification of stressed unregulated rivers and groundwater systems and developing river flow management plans (RFMP) and water quality action plans (WQAP)<sup>95</sup>. RFMPs will take into account environmental objectives and scientific information, defining water access rights and placing measures to fix

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<sup>94</sup> New South Wales has since advised that environmental objectives will be set by Government.

<sup>95</sup> New South Wales has since advised that one water management plan, addressing both water quality and river flow objectives, will be developed.

water sharing rules. WQAPs will focus in pollution reduction strategies. A similar process is proposed for groundwater, and will be backed by licensing reforms (volumetric licences with conditions defining access to flows at particular times) and monitoring. Where rivers are unstressed or groundwater aquifers a low risk the embargo on new licences will be lifted to enable additional development.

Investment strategies will provide investment confidence by clarifying water access and use rights (initially for a period of five years) and free-up and expand water trading opportunities. In addition Government investment is proposed by way of incentive funding for irrigation efficiency gains, provision of support to regional community based water committees, provision of country town water supply and sewerage schemes. This incentive funding is intended to improve planning and operation management, provide capital works to meet public health and environmental standards and implement of land and water management plans for irrigation areas. Finally, the appointment of IPART to review bulk water prices and interim water management charges is noted as a measure to meet full cost pricing objectives.

Reshaping the interaction between government and communities by establishing community based groups for regulated and stressed unregulated rivers and groundwater systems and institutional separation of water service providers from regulators.

Other initiatives identified include the development of State Groundwater and State Weirs Policies, a review of Total Catchment Management and the commissioning of a Water Conservation Taskforce to develop a state-wide water conservation strategy.

In proposing reforms to the existing framework, the discussion paper documents eleven water sharing principles including:

- the environment and extractive users both have a legitimate claim on water;
- water sharing should ensure, as a prior right, the maintenance of the fundamental health of river and groundwater systems and processes;
- water sharing should allow ecologically sustainable development;
- rules governing the environment and extractive uses should be determined by government and users together;
- changes should clarify and wherever possible not act to diminish current water users' rights;
- water rights and land title should be separated;
- water rights should be clearly specified in terms of tenure, definition of water allocations, obligations of rights holders and compliance requirements;
- water rights should be based on a consistent licensing system based on volume and timing of access; and

- the market for water rights should maximise opportunities for productive use of water.

### Progress on reforms

The publication *New South Wales Progress on the Water Reforms, 1995 to 1998* (the progress report) outlined the progress on reform commitments as follows:

#### *Goal 1: To better share the available water*

Environmental flow rules (EFR) on all regulated rivers and the Barwon-Darling River were negotiated by river management committees (RMC) and are presently being implemented. RMCs include water user (irrigator and non-irrigator), environment, government, community and aborigine representatives. Eleven river flow objectives developed for EFRs include protection and restoration of natural water levels and flows, mimicking of natural inundations, drying periods and stream flows, maintaining groundwater within natural levels and managing flows to provide means to address contingent environmental and water quality events. RMCs are also to have regard to the needs of extractive users and the environment. EFRs cannot exceed a 10 per cent reduction in the average long-term diversions under the Murray Darling Basin Cap. EFRs provide an initial five year period of resource security.

It was noted that EFRs implemented in the Macquarie Marshes and Gwydir Wetlands in 1995 had demonstrably improved water bird breeding conditions. The long term impact of EFRs on other rivers is currently estimated at about 7 per cent (i.e., without the rules diversions would be about 7 per cent higher).

The Namoi EFRs provide for a limit on the maximum annual off-allocation diversions of water to 11 000 ML and provide for a sharing of off-allocation water between users and the environment. The Lachlan EFRs provide for releases of selected inflows, provide for a high security environmental contingency allocation of 20 000 ML at the time of critical environmental events to support bird and fish breeding, limit off-allocation extractions and provide for a minimum flow at the end of the river. The Barwon-Darling EFRs provided for setting a threshold at 60 per cent natural flow above the Namoi junction and raising the threshold for 'B class licences' below the Namoi junction. It was estimated that these EFRs would reduce current use by about 5 per cent.

Implementation of the Murray Darling Basin Cap. The cap is defined in any valley as that amount of water that would have been extracted had development levels not grown beyond those which existed up to and including the 1993-4 season.<sup>96</sup> The cap is incorporated into EFRs.<sup>97</sup> In this respect it is noted that the Independent Audit Group (IAG) 1997-1998 report identified four New South Wales valleys where the cap was considered to be breached: the Murrumbidgee, Lachlan, Barwon-Darling and Border rivers. It was noted that the EFRs are expected to rectify the problems with Cap

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<sup>96</sup> The Cap – A basis for the Evolution of Water Management DLWC December 1998.

<sup>97</sup> New South Wales Annual Report on the application of National Competition Policy for the year ending December 1997.

compliance in all but one of these valleys. The exception is the Barwon-Darling where further work is needed.

The *Draft Five Year Strategy for Water Management in New South Wales – 1999 to 2003* (DLWC, December 1998) (the five year strategy) notes that during 1999 RMCs will prepare water quality plans and from the year 2000 have locally agreed water quality strategies for implementation. Flow rules, monitoring, water quality plans and socio-economic studies will be integrated into comprehensive river management plans by the year 2003. The five year strategy noted the commitment of New South Wales to the cap although negotiations will be sought as regards auditing, implementation of volumetric conversions for unregulated rivers and implementation of the farm dams policy.

Management of unregulated rivers. Action taken includes the categorisation of rivers according to their stress and the establishment of water management committees to develop management plans by 2000-2001. The *New South Wales State Summary – Stressed Rivers Assessment report* (April 1998) noted that the classification of stressed rivers has proceeded on a subcatchment basis (680 subcatchments). Rivers were divided into nine categories on the basis of high, medium or low water extraction and high, medium or low environmental stress. Estimates were based on current water usage (full development of all existing entitlements) and environmental health of the rivers. A special high conservation rivers classification was also developed where, for example, high value species or wetlands, high biodiversity or the pristine condition of the river indicated special conservation value.

The classification influenced decisions concerning:

- the development of and issues to be addressed by River Management Plans (RMPs). RMCs would develop RMPs on high priority subcatchments first;
- the volume of water that can be extracted;
- review of licence embargoes;
- introduction of interim trading rules; and
- protection of high conservation value rivers.

Some 25 per cent of the rivers classified were identified as high priority for the development of river management plans with an additional 60 subcatchments being so classified on the basis of potential future water use development. 100 subcatchments were also identified as having high conservation values. The classification of all rivers would be reviewed every five years.

The progress report noted that water management committees are progressively being established for unregulated rivers and EFRs will be developed. RMPs for the most highly stressed and some high conservation value rivers will be prepared by the year

2001, other stressed and high conservation rivers by the year 2003 and all major unregulated rivers by the year 2005.<sup>98</sup>

Managing groundwater. The New South Wales State Groundwater Policy Framework Document (the framework) (DLWC, August 1997) outlines the goal for management of groundwater as: to manage the State's groundwater resources so that they can sustain environmental, social and economic uses for the people of New South Wales. The framework seeks to encourage sustainable development of groundwater resources so as to: slow, halt or reverse any degradation; ensure long term ecological sustainability; maintain the full range of beneficial uses of groundwater; and maximise the economic benefits of groundwater. The framework outlines three component policies covering groundwater quality protection, quantity management<sup>99</sup> and dependent ecosystems.<sup>100</sup> The quality protection policy,<sup>101</sup> the only one presently completed, outlines management principles including:

- that all groundwater systems should be managed such that their most sensitive identified beneficial use is maintained;
- that town water supplies should be granted special protection against contamination;
- groundwater pollution should be prevented so as future remediation is not required;
- the pumper of groundwater bears responsibility for environmental damage or degradation caused by using groundwater in a manner that is incompatible with soil, vegetation or receiving waters;
- groundwater dependent ecosystems will be afforded special protection;
- groundwater quality protection should be integrated with management of groundwater quantity; and
- degraded areas should be rehabilitated wherever possible.

Resource management principles included in the framework cover such matters as: the phasing out of non-sustainable uses; the protection of significant environmental and/or social values dependent on groundwater; rehabilitation of degraded areas; and integration of groundwater management with surface water and wider environmental and resources management. The range of management tools include the formulation of groundwater management plans (GMP) by groundwater management committees (GMC) where necessary and the use of legislative mechanisms, licensing tools and economic instruments. GMPs will be reviewed every five years.

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<sup>98</sup> The five year strategy.

<sup>99</sup> New South Wales has noted that this will be released in 1999.

<sup>100</sup> The five year strategy notes that the Groundwater Quality Management Policy and Groundwater Dependent Ecosystems Policy will be finalised in 1999.

<sup>101</sup> *New South Wales Groundwater Quality Protection Policy* DLWC December 1998.

As the framework foreshadows, aquifers have be assessed as either high, medium or low risk from over extraction and contamination.<sup>102</sup> Eight weighted criteria were used including the relationship between licensed water entitlements and sustainable yield, land use threats and the dependence of surface ecosystems on groundwater flows. Thirty-six of ninety aquifers were identified as at high risk, thirty-two of these from overallocation and four from contamination. GMPs are to be developed by the end of 1999 for aquifers at risk of over-extraction and by the year 2001 for aquifers at risk from water quality decline. By the year 2005 there will be a comprehensive set of management plans for at risk groundwater systems.<sup>103</sup> Each aquifer will be re-assessed on a five year basis.

The *Groundwater Management – Where to now* pamphlet (DLWC, December 1998) provides a case study of the Namoi Groundwater System. The system has groundwater allocated at more than double the amount that is sustainable. The GMP provides for the phasing in of allocation reductions. Subsequent investigations of the social impact and ways in which issues of unused allocations could be addressed were undertaken. The GMC is presently consulting with the community concerning the findings of the investigations.

The progress report notes that DLWC, the Great Artesian Basin Advisory Council and Consultative Council have developed a management plan for the entire Basin. A discussion paper on the embargoed intake beds has been published, a hydrological flow model developed and the bore monitoring network reviewed to improve efficiency. The plan will be completed by 1999.<sup>104</sup>

### ***Goal 2. To enhance support to the rural water sector***

The progress report notes the reforms proposed in *Water sharing in New South Wales – access and use. A discussion paper*. The farm dam policy is cited. The progress report also notes that a Water Conservation Strategy was completed in December 1998.

*Socio-economic Assessment Guidelines for River, Groundwater and Water Management Committees* (Independent Advisory Committee on Socio-economic Analysis, 1998) have been developed to assist management committees in water management decisions by providing methodological advice information collection, assessment and audit. The guidelines outline a community based socio-economic assessment that includes the following steps:

- documentation of the biophysical, social and economic conditions of the catchment and identification of communities' water resource management issues;
- goal setting;
- generation of options for water management;

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<sup>102</sup> *Aquifer Risk Assessment Report* DLWC August 1998.

<sup>103</sup> The five year strategy.

<sup>104</sup> The five year strategy.



- identification of positive and negative effects of management options on the community;
- assessment of social and economic effects of changes;
- determination of preferred options;
- development of appropriate impact management strategies which enhance positive impacts and minimise negative impacts;
- incorporation of socio-economic assessment into the management plan; and
- monitoring effects, evaluation and adjustment of the plan as required.

### ***Goal 3: To reshape how water management is delivered***

The progress report highlights the establishment of community-based decision making such as river management committees in regulated and some unregulated systems, including support staff and information packages. The committees' roles include assisting the development of EFRs, preparing action plans to achieve environmental objectives and reviewing overall river management to assess the impact on environmental objectives.<sup>105</sup>

Consultation mechanisms have included the creation of water management committees, the Water Advisory Council (WAC), intergovernmental agency committees and detailed public meetings and information sessions on reform obligations.

Institutional reform includes the establishment of State Water. Licensing HWC and SWC, a review of metering of water extractions are other examples of the implementation of water management reform. The Water Amnesty was an undertaking not to prosecute unlicensed or excessive water users for past illegalities. The scheme also provided for an opportunity to apply for a licence if this was appropriate or necessary. Four thousand six hundred and twelve registrations have been received.<sup>106</sup>

### **Future strategy**

*A Draft Five Year Strategy for Water Management in New South Wales – 1999 to 2003* (DLWC, December 1998) (the five year strategy) notes that the guiding principles for water quality and flow management are to:

- adapt environmental objectives and river management over time to provide for adjustments based on expanding knowledge, river health monitoring and changing community and economic values;

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<sup>105</sup> *Role of community based committees* DLWC July 1997.

<sup>106</sup> *New South Wales Water Amnesty and other Water Licensing Issues* DLWC December 1998.

- ensuring a catchment focus by tailoring river health provisions to provide cost-effective and practical solutions to meet individual needs;
- recognising the link between river flows and water quality;
- monitoring social and economic impacts;
- providing water for the environment to mimic natural flows as much as possible;
- protect systems not seriously affected by human activities;
- rehabilitate highly stressed rivers;
- consider ground and surface water interactions; and
- proposals for instream structures are to show clear benefits outweighing environmental effects and that there are no alternatives.

### **Other information**

New South Wales noted that a number of measures had been taken to ensure rigour in the development of research information and its transfer to management decision making including:

- the whole of government group co-ordinating the implementation of water reforms established a multi-agency Policy and Technical Committee to ensure peer review of data management and use;
- in December 1997 the Co-operative Research Centre for Freshwater Ecology (CRCFE) hosted a forum which examined the science being used to determine river flow objectives and associated environmental flow rules. The chair of the forum concluded that there was strong scientific support for the New South Wales' approach; and
- a technical advisory committee, with university and CSIRO membership, has been established to review and refine the Integrated Monitoring of Environmental Flows program.

The New South Wales' allocation and trading implementation program is outlined in attachments 3 (for all systems), 4 (unregulated catchments) and 5 (groundwater systems). New South Wales has noted:

- for regulated rivers EFRs are in place and the reform requirements have been met; and
- for groundwater systems the conversion of remaining area licences to a volume basis is expected to be completed by December 2000.

### **Council Comment**

The *National Principles of the Provision of Water for Ecosystems* includes the following principles directly relevant to the Council's assessment:

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

In respect of reforms in place and proposed for regulated and unregulated rivers and groundwater aquifers, there is clear recognition of the potential and actual impact of regulation and extraction of water on ecological values including the riverine environment, aquifers and associated ecological systems.

***Principle 2 best scientific information available on the water regimes necessary to sustain the ecological values of water dependent ecosystems***

It is difficult to say what 'best scientific information' at any point in time is. However, in this respect the Council notes features of New South Wales reforms including:

- the assessment of unregulated rivers and groundwater aquifers takes into account scientific information (for example, hydrological information in determining subcatchments) concerning the particular system;
- EFRs have taken into account scientific information concerning natural flow events in their development;
- RMPs and GMPs have regard to information concerning affected ecosystems in their development;
- the creation of a management plan for the Great Artesian Basin will incorporate hydrological information;
- ongoing management of all systems includes continuing assessment and use of assessment tools such as photographic assessment of existing irrigation developments (stressed rivers); and
- New South Wales has utilised the expertise of the CRCFE to examine the science underpinning river flow objectives and environmental flow rules.

The Council is satisfied that the policies and procedures in New South Wales provide for consideration of current scientific information.

***Principle 3 Environmental water provisions should be legally recognised.***

EFRs provide explicit recognition for flow events to be provided to the environment. In addition, it would appear that both GMPs and RMPs will provide explicit recognition for water and flows that belong to the environment.

The Council notes the stated commitment of New South Wales to a comprehensive overhaul of water legislation including the recognition of flows needed to restore adequate river health as a prior right over consumptive use.

***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.***

The Council notes that EFRs have provided improved flow outcomes that are to specifically benefit the environment. These benefits are at the expense of possible diversions from the rivers. The Council also notes that the MDBC cap has resulted in an effective embargo in diversions in all inland rivers, to the benefit of the water ecosystems. In addition, the Namoi GMP provides evidence of the reduction in water ~~allocation to consumptive uses~~ ***allocation to consumptive uses cannot be met due to***

The Council notes that consultative mechanisms such as RMCs/GMCs and formalisation of socio-economic assessments will ensure that the existing rights of users are considered in decisions regarding making water available for ecosystems. In addition, the water sharing principles recognise the legitimate claims of extractive users on water and that rules governing both environmental and extractive uses of water should be determined by the government and users together.

The Council is satisfied that the policies are in place to permit extractive users rights to be recognised while ensuring water is allocated to sustain ecological values.

***Principle 5***

***existing uses, action (including reallocation) should be taken to meet environmental needs.***

The Council notes that there are many overallocated systems in New South Wales. In addition, the Council notes that some action (e.g., EFRs) has been taken to recognise environmental needs. RMPs and GMPs will contribute to a reallocation of some water to the environment, including by trading mechanisms.

It is unclear from the reform proposals the precise nature of the mechanism that will be used to meet environmental water requirements in overallocated systems. The Council does note, however, the commitment of New South Wales to recognise legislatively the prior right of water for the flows needed to restore adequate river health. The Council notes its view that this is a matter of considerable importance.

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

The Council notes the present embargoes on new allocations for many New South Wales water systems. The Council also notes that processes outlined by New South Wales will provide for an assessment prior to new allocations being made and that this assessment will include environmental considerations.

***Other matters***

New South Wales has achieved reform by: the establishment of EFRs for regulated rivers; the assessment of classification of regulated and unregulated rivers and aquifers; and the development of policies and future strategies to deal with issues surrounding allocation of water to its various consumptive uses.

In reviewing the information on progress the Council notes again that the reforms in New South Wales has not as yet overhauled its water legislation and that a

supplementary assessment on progress in enacting this legislation will be undertaken in June 2000. The Council considers that this passage of reforming legislation is critical to the further progress of the reforms outlined by New South Wales. In this respect the Council notes that:

- For regulated systems, EFRs were the first step in a process that included licence reviews. It is noted that EFRs for the Barwon-Darling River do not appear to meet the MDBC cap.
- For unregulated systems, although the roll-out for RMPs will appear to address the high stressed systems by the end of June 2001, this is presumably dependant on the implementation of water licensing reform that is still in the development phase. In addition, some systems' reviews are not to be completed until the year 2003.
- As regards groundwater, policies for quantity management and dependent ecosystems are still in development. The Council notes that GMPs for stressed aquifers should be completed by 1999, but is unclear how any new regime will fit in with modifications proposed for water title rights.

The Council has reviewed the implementation programs for New South Wales regulated rivers, unregulated catchments and groundwater systems. The Council is of the view that the implementation of EFRs on regulated rivers substantially meets the reform commitment.

The Council has reviewed and discussed with New South Wales the programs provided for unregulated rivers and groundwater systems.

The Council agrees to the implementation programs provided by New South Wales. In doing so, it notes the following relevant matters:

- the National Land and Water Resource Audit, funded under the Natural Heritage Trust, is presently being undertaken and will provide valuable information to jurisdictions and the Council as to any relevant systems not included in the programs or that require 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 systems. This process may result in a modification to implementation programs; and
- the implementation programs, by their nature, may need to be amended depending on many factors including 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 is therefore of the view that the implementation programs may change over time, provided there is agreement between New South Wales and the Council.

### 10.2.4.3

#### **1998. Water should be used to maximise its contribution to national income and welfare.**

**Where cross border trade is possible, trading arrangements must be consistent between jurisdictions and facilitate trade. Where trading across State borders could occur, relevant jurisdictions must jointly review pricing and asset valuation policies to determine whether there is any substantial distortion to interstate trade.**

Jurisdictions must 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 assess the adequacy of trading rules to ensure no impediments. If legislation has not achieved final parliamentary passage, the Council will recognise the progress towards achieving legislative change during its assessment of compliance.

As noted above, for the second tranche, jurisdictions should submit individual implementation programs, outlining a priority list of river systems and groundwater resources and detailed implementation actions and dates for allocations and trading to the Council for agreement, and to Senior Officials for endorsement. This list is to be publicly available.

Cross border trading should be as widespread as possible. Jurisdictions are to develop proposals to further extend interstate trading in water.

#### **NSW arrangements**

##### **Present trading arrangements**

Part 2, Division 4C of the Water Act provides for the temporary or unlimited transfer of water allocations where these are measured volumetrically. The applications for transfer are subject to approval by the Ministerial Corporation which must be satisfied that the transfer '*would not result in the transferee's scheme being subjected to an unacceptable commitment*'; section 20AH. For transfers exceeding in total three years a farm water management plan outlining information such as previous water consumption, groundwater levels, soil type, existing and proposed irrigation must be approved by the Ministerial Corporation. The farm water management plan then becomes a condition on the licence permitting the transferee to take the traded water.

Part 5 of the Water Act deals with groundwater and permits temporary and permanent transfer of licences on the approval of the Minister and after having regards to matters such as the social and economic effect of the transfer if approved.

*Enhancing and extending water trading in New South Wales* (DLWC, December 1998) (the enhancing trade paper) notes that there are currently differing trading rules for each of the regulated rivers and the Barwon Darling. For example, in the Macquarie River there are no temporary or permanent trades permitted into Crooked Creek and volumetric trades constrained on Duck and Gunningbar Creeks and Cudgeong River. A conversion factor of 0.7 is applied for trades past Fairview dam. In the Barwon Darling River there are no temporary trading rules and interim permanent trading rules. In the Namoi and Border Rivers there are no restriction on

either permanent or temporary trades. Trades between 200 000 and 700 000 ML have been made annually, although permanent trades represent only a small proportion of this (10 000-50 000ML). The annual value of trade on regulated rivers is estimated at between \$5 million in a wet year to \$40 million in a dry year.

### **Proposed reforms and progress**

*Water Trading on Regulated Rivers – Benefits of Separation of Access and Use Rights* (undated, DLWC) notes that the present trading regime under the Water Act restricts water purchases to those who own land. It notes that the splitting of water licences into access and use rights would:

- provide for better definition of rights in that trading in access rights would be independent of the use to which the water is put;
- greater homogeneity in the right being traded; and
- prior approval (via a usage right) would speed up the processing of transfers and third party objections.

The enhancing trade paper notes that reforms in 1998 were designed to extend markets and improve their operation, including trading beyond irrigators to industrial and mining users, participating in the MDBC Pilot Interstate trading project and commencing trade on unregulated rivers. A consultancy<sup>107</sup> on water trading (due to report in 1999) had made the preliminary findings including:

- water trading offers substantial potential benefits to individual water users and the New South Wales economy but is currently operating less than optimally, particularly as regards permanent transfers. This favours incumbent annual crop growers and disadvantages potential new users;
- trading rules need to reflect environmental and river health objectives and a precautionary stance must be operated at least until flow regimes have been specified;
- individual permanent trading rules can take 6-12 months to approve due to required environmental assessment. More efficient trading rules requires the development of explicit trading rules, which are linked to flow management rules, and a prior approval mechanism covering land use requirements. This could occur with the separation of access and use rights; and
- transfer rules should reflect physical characteristics of water delivery (such as transmission losses) and explicitly state their objectives or interactions.

Following the review of trading arrangements, the next step identified is the specification of access rights to facilitate efficient water trading. The third step requires the development of state-wide trading principles to support consistent market

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<sup>107</sup> Marsden Jacobs.

development and local rules, developed by water management committees, addressing specific regional concerns. Two further steps identified are:

- efficient processing of transfer applications; and
- creating a more fully informed market. A consultancy in conjunction with the MDBC to establish a water trading information system on the internet is to be trialled and will provide information concerning trading rules, contact details for buyers/sellers and prevailing reported market prices.

*Water Trading on Unregulated Rivers* (DLWC, December 1998) notes that trading in unregulated rivers is in its infancy and cannot develop to its full extent until river management plans<sup>108</sup> are in place. Interim trade rules, to be finalised following the completion of risk assessments, volumetric conversions of water rights and development of river management plans, have been developed. The interim rules apply to permanent trades only. The interim rules:

- confine trades generally within subcatchments and provide that trades are available to active irrigator and industrial water users only;
- require a farm water management plan to be submitted with the application; and
- permit trading for licences on the basis of an equivalent area until volumetric conversion has taken place.

Transfers require the buyer to apply for a new water licence and may require an Environmental Impact Statement or detailed Review of Environmental Factors depending on the scale of the proposed development.

The Council has been advised that trials on intervalley trades will commence shortly. Principles for trading groundwater will be established in 1999 and markets introduced following resource assessment, determination of primary allocations and establishment of local trading rules.<sup>109</sup>

The Council has also been advised that 75 per cent of the water used in New South Wales is now subject to a mature market approach and that the value of market transactions handled by DLWC is over \$40 million per annum.<sup>110</sup>

The consultant's draft final report recommends the separation of water rights into an access and a use right. It is noted that many of the proposed efficiency improvements are based on 'prior approvals' bedded into comprehensive planning scenarios for both types of rights. The response notes that the new framework will provide for significantly shorter periods of time to complete permanent transfers and the basis for more comprehensive trading regimes on unregulated rivers and aquifers.

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<sup>108</sup> RMPs will clarify water access rights, conditions under which water can be taken from rivers and detailed trading rules.

<sup>109</sup> Meeting, Council Secretariat and New South Wales Officials, 25/11/98.

<sup>110</sup> Not including the value of trade in irrigation areas and districts and interstate trade.



### **Interstate water trading**

As regards interstate trade, 5 000 ML of excess environmental water was sold by Victoria to New South Wales in 1994. The sale was effected after consultation with possible Victorian users.

New South Wales is a participant in the pilot interstate water trading project in the Mallee border region of the Murray-Darling Basin.<sup>111</sup> The project is limited to permanent transfer of high security water entitlements held by private diverters. Each trade must be approved by respective state authorities. The scheme provides for the registration of the trades and exchange rates to limit the impact of trades on the security of others' water entitlements and the environment. Environmental clearances are integral to the pilot, as is the maintenance of the Salinity and Drainage strategy.

The Council has been advised by the MDBC that the first water trade under the project occurred in September 1998 and that as at 15 February 1999, 248 ML had been transferred from New South Wales to Victoria, 600 ML from Victoria to South Australia and 528 ML from New South Wales to South Australia. The present price for trades is about \$1 000 per ML. The MDBC is presently reviewing the project.

New South Wales has advised that interstate trade between New South Wales and Queensland cannot occur until Queensland has completed '*capping*' entitlements, and that there are at present no formal arrangements for trade.<sup>112</sup>

### **Council Comment**

The Council notes that there is at present significant trade occurring in New South Wales, and that this is having a significant and positive net effect on rural outputs.

The Council is of the view that the present trading systems have some shortfalls, including long time periods between proposed trading and approval and a lack of flexibility in the present water licensing system. It cannot be said that the current trading rules remove impediments to trade. For example, some proposed transfers require extensive and expensive information and take two or more farming seasons before they are approved, which is hardly conducive to efficient farm water management.

The Council notes the present trading arrangements are being reviewed. In this respect:

- the proposed new system of water licensing outlined above is said to have significant advantages in facilitating water trade;
- a consultancy has completed a review of present trading arrangements;
- pilot projects are in place for interstate and unregulated river water trading; and

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<sup>111</sup> The Pilot Interstate Water Trading Project information sheets; MDBC, 1998.

<sup>112</sup> New South Wales Annual Report in the Application of National Competition Policy for the year ending December 1997.

- principles for groundwater trade are being developed.

All of these will contribute to creating a more efficient system of trading.

The Council is not satisfied that present trading arrangements meet the framework commitments. Considerable work in finalising new licensing regimes for water access, completing pilot trading projects and trading rule reviews and implementing recommendations to streamline present trading arrangements is required.

New South Wales has advised that there will be a comprehensive overhaul of water legislation by the end of 1999. The Council will undertake a supplementary assessment of these matters in June 2000.

The infancy of interstate trade is acknowledged by the careful progress of the MDBC pilot project. Nevertheless, some trading has occurred, and the project is presently being reviewed. This should provide an opportunity for problems to be identified and solutions jointly created by member states.

The Council is concerned at the lack of progress in New South Wales/Queensland cross-border trading and will pursue this matter with both jurisdictions prior to the third tranche assessment.

## **B10.2.5 REFORM COMMITMENT: ENVIRONMENT AND WATER QUALITY**

### **10.2.5.1**

**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 address areas of inadequacy. Programs would desirably address such areas as government agency co-ordination, community involvement, co-ordinated 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.

### **NSW arrangements**

#### **Catchment Management**

The *New South Wales Annual Report in the Application of National Competition Policy for the year ending Dec '97* notes that Total Catchment Management was endorsed as New South Wales Government Policy in 1987 and *the Catchment Management Act* (CM Act) put in place in 1989.

The CM Act provides for the establishment of a State Catchment Management Co-ordinating Committee and Catchment Management Committees and Catchment Management Trusts to implement total catchment management of natural resources. Total catchment management (TCM) is defined as the co-ordinated and sustainable use and management of land, water, vegetation and other natural resources on a water catchment basis so as to balance resource utilisation and conservation.<sup>113</sup> The objects of the Act include:

- to co-ordinate policies, programs and activities as they relate to total catchment management;
- to achieve active community participation in natural resource management;
- to identify and rectify natural resource degradation;
- to promote the sustainable use of natural resources; and

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<sup>113</sup> Section 4 CM Act.

- to provide stable and productive soil, high quality water and protective and productive vegetation cover within each of the State's water catchments.

In order to give effect to the objects, the CM Act provides for a network of Catchment Management Committees (CMC), co-ordinated by a Co-ordinating Committee, and Catchment Management Trusts (CMT). These link the Government and community to achieve the objectives of total catchment management. In addition, the CM Act provides for Catchment Management Trusts to raise revenue for particular total catchment management purposes.

The Co-ordinating Committee<sup>114</sup> consists of twenty members including government officers, environmental representatives, persons nominated by the Shires Association, and persons nominated jointly by the Catchment Management Committees. The objective of the Co-ordinating Committee is to provide a central co mechanism for the purpose of total catchment management throughout New South Wales and its functions include co-ordination of the implementation of total catchment management strategies, monitoring and evaluating the effectiveness of total catchment management strategies and co-ordinating the functioning of Catchment Management Committees.

CMCs<sup>115</sup> are created by the Minister. Membership of CMCs includes persons who are land holders or land users within the catchment area (who are to constitute the majority of the members), environmental representatives, local government nominees and government officers with responsibility for natural resource use or management within the catchment area. CMCs have functions including to promote and co-ordinate the implementation of total catchment management policies and programs, to advise on and co-ordinate the natural resource management activities, to identify catchment needs and prepare strategies for implementation, to co-ordinate the preparation of programs for funding and to monitor, evaluate and report on progress and performance of TCM strategies and programs. New South Wales has advised that some forty CMCs are presently in operation.<sup>116</sup>

CMTs<sup>117</sup> are created after consideration of matters such as whether: the degradation of natural resources within the area concerned is adversely affecting the community; the land holders, land users and the community who utilise and derive benefit from those resources have a joint responsibility to deal with the degradation; the formation of a CMT is the most appropriate means of achieving equitable cost sharing; and there is clear support by the land holders, land users and the community for the formation of a CMT.

CMTs consist of trustees including land users or land holders within the CMT area, (who are to constitute the majority of the trustees), environmental representatives and persons nominated by local government authorities. A CMT may:

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<sup>114</sup> Part 2, Division 1 CM Act.

<sup>115</sup> Part 2, Division 2 CM Act.

<sup>116</sup> New South Wales Annual Report in the Application of National Competition Policy for the year ending December 1997.

<sup>117</sup> Part 3 CM Act.

- provide, construct, operate, manage and maintain works and buildings;
- purchase, exchange, take on hire or lease, hold, dispose of, manage, use or otherwise deal with real or personal property;
- enter into cost-sharing or other arrangements in connection with the carrying out of works;
- generate revenue by levying and recovering catchment contributions; and
- provide assistance to mitigate the effects of flood, drought, fire or other emergency, including assistance with funds, personnel or equipment;

A CMT levy is a catchment contribution on any land within the CMT area declared to be a catchment contribution area. A catchment contribution may only be levied to fund the programs in the CMT's corporate plan as approved by the responsible Minister. So far three CMTs have been established: the Hawkesbury-Nepean Catchment Management Trust; Hunter Catchment Management Trust; and Upper Parramatta River Catchment Management Trust.

The New South Wales 1998 annual report notes that a review of TCM was nearing completion. It is also noted that a Natural Resources Directions Statement which is likely to incorporate a vision for natural resource management in New South Wales and a range of key policy principles for natural resource management is being developed for consideration by Cabinet in 1999. The policy will include integration of resource management across resource, social and ecosystems boundaries and linking community and government efforts in natural resource management.

### **Other information**

A range of New South Wales initiatives have regard to integrated catchment management in decisions concerning classification, planning and/or intervention. These include:

- the creation of the SCA;
- the farm dams policy;
- the Stressed Rivers Assessment Report;
- the groundwater quality protection policy and resource management principles;
- the Socio-economic Assessment Guidelines for River, Groundwater and Water Management Committees; and
- the Draft Five Year Strategy for Water Management.

Additional reforms in this area cited by New South Wales<sup>118</sup> include development of catchment based environmental objectives for each river and estuary and detailed

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<sup>118</sup> *New South Wales Progress on the Water reforms, 1995 to 1998* (DLWC, December 1998) [To better share the water available].

inquiries into specific catchments by the Healthy Rivers Commission (HRC). The HRC has completed an inquiry into the Williams River and the recommendations are being implemented by HWC.<sup>119</sup> The five year strategy noted that inquiries or reports are being completed on the Hawkesbury-Nepean, Hunter, Bega, Shoalhaven, Clarence, Woronora and Tweed rivers.

Implementation of the New South Wales Wetlands Management Policy has resulted in a more natural flow regime for riverine wetlands and protecting wetland vegetation. As noted previously, the New South Wales Weirs Policy has as its goal to halt and, where possible, reduce and remediate the environmental impact of weirs.<sup>120</sup> Principles adapted in support of this goal include:

- the construction of new weirs, or enlargement of existing weirs, shall be discouraged. In this respect notes that a proposal will not be approved unless it maintains the essential social and economic needs of the affected community;
- weirs no longer providing a significant benefit shall be removed;
- where weirs are retained, owners will be: encouraged to undertake structural changes to reduce their environmental impact; required to prepare operational plans to reduce their environmental impact; and expected to maintain them in good working order; and
- the protection of wetlands and riparian vegetation from permanent inundation and rehabilitation of damaged environment.

The Policy requires the development of a weir inventory and a review of all existing weirs to determine their current acceptability. A Weir Review Committee (which first met in November 1998) including departmental, local governmental, farming and environmental representatives was established to advise and assist on priorities and procedures.

Land and Water Management Plans (LWMP) are large sub-catchment action plans to achieve better integrated management of natural resources and provide for longer term sustainability of rural industries. LWMPs are developed by community working groups, reviewed by a government assessment team and then endorsed by government and implemented through government-community agreements. Four LWMPs have been completed and the likely cost of implementation of these plans some \$500 million, funded by governments and the local community. Another four LWMPs are either drafted or in progress.

### **Council Comment**

The Council notes the pioneering work of New South Wales in catchment management, and the continuing development of strategies to address catchment issues. The Council is satisfied that:

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<sup>119</sup> New South Wales Annual report on the Application of National Competition Policy for the year ending December 1997.

<sup>120</sup> *New South Wales Weirs Policy* DLWC August 1997.

- New South Wales has demonstrated arrangements that ensure an integrated approach to resource and catchment management. The Council also notes that this process is ongoing and improves on what is already a comprehensive system;
- that the process included in the CM Act provide for consultation with relevant stakeholders including local government, landholders and environmental representatives;
- that there is provision for the funding of specific initiatives in some circumstances through a trust mechanism; and
- that ongoing initiatives such as the HRC and development of LWMP will ensure continuing development of catchment management that addresses new circumstances and the multiple uses of catchments and the water that is captured.

The Council notes that reforms outlined by New South Wales will contribute further to TCM, and will continue to monitor these matters prior to the third tranche assessment. The Council is satisfied that, for the second tranche this aspect of the strategic framework is met.

**10.2.5.2 Support ANZECC and ARMCANZ in developing the National Water Quality Management Strategy (NWQMS), through the adoption of market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewerage disposal and community consultation and awareness.**

Jurisdictions must have finalised development of the NWQMS and initiated activities and measures to give effect to the NWQMS.

**NSW arrangements**

The Council notes the information outlined above including:

- the work of the HRC;
- EFRs;
- the work of the Sydney Water Inquiry including the recommended proposed review of licence conditions for SWC;
- the work done on stressed unregulated rivers including the proposed development of WQAPs; and
- the groundwater quality protection policy.

**The Sydney Water Inquiry**

In his second report, McClellan noted that the current OL for SWC required water for drinking purposes to meet 1980 National Health and Medical Research Council (NHMRC) Guidelines, and that an agreed timetable for meeting the 1987 Guidelines be negotiated with New South Wales Health in accordance with the MoU. It was noted that SWC presently endeavoured to comply with the NHMRC's 1996 Guideline.

In his fifth report McClellan noted that the New South Wales Government has requested NHMRC to review its guidelines with a view to an improved operational water quality standard being imposed on SWC by the end of 1999.

### **Other information**

WSAA Facts '98 notes for SWC, 99.75 per cent compliance with bacteriology quality and 99.53 per cent compliance with Physico/Chemical (turbidity/colour/pH) as set out in the 1980 NHMRC Guidelines. HWC's results were 98.7 per cent and 99 per cent respectively (NHMRC 1996) and GCC's 100 per cent and 100 per cent (NHMRC 1996). As regards Wastewater effluent, SWC and GCC are noted to be 100 per cent compliant with overall effluent discharge standards (HWC 99.5 per cent compliant), most treatment plants<sup>121</sup> being compliant with Licence conditions at all times.

The Council notes that the DLWC Performance Comparison for NMU Water Supply and Sewerage (1995-1996) reported that 87 per cent of councils complied with 1987 NHMRC Guidelines although 16 per cent of councils did not report. It was noted that all councils should carry to the necessary water quality sampling and report thereon in the future. New South Wales has noted that there has been a progressive increase in performance requirements with an emphasis on nutrient removal, and that many NMUs have nutrient removal in place. The report also noted significant failure to meet EPA licence conditions for wastewater, and that the major cause for non-compliance is due to the growth of algae in maturation ponds. The report noted the negotiations between local governments and the EPA concerning licensing methods. The report also noted that in excess of 10 per cent of councils did not report on effluent.

The New South Wales Annual Report in the Application of National Competition Policy for the year ending Dec '97 noted that New South Wales contributed to the National Water Quality Management Strategy, and cited, for example, pilot projects as regards wastewater disposal.

New South Wales has advised of the implementation of a Load Based Licensing scheme which provides economic incentives to some 3 500 pollution licences held by large enterprises with the greatest potential to cause environmental harm (sewage treatment plants, feedlots, manufacturing industries) from nutrient and other point source pollution.

### **Council Comment**

The Council notes the contribution of New South Wales to NWQMS. In particular it notes the work completed and proposed for Sydney's potable water supplies. The Council will continue to monitor the implementation of the recommendations of the Sydney Water Inquiry recommendations prior to the third tranche assessment.

While there has been significant non-compliance with water and wastewater quality standards for NMUs, New South Wales has focussed on increasing the performance requirements required of local government.

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<sup>121</sup> Except 5 of 21 HWC treatment plants.



The Council, while satisfied that New South Wales has met this reform commitment for the second tranche, will continue to monitor the implementation of the NWQMS guidelines prior to the third tranche assessment. The Council will focus on issues concerning implementation, monitoring and compliance with guidelines.

## **B10.2.6 REFORM COMMITMENT: PUBLIC CONSULTATION, EDUCATION**

### **10.2.6.1**

**(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.**

The Council will examine the extent and the methods of public consultation, with particular regard to pricing, allocations and trade. The Council will look for public information and formal education programs, including work with schools, in relation to water use and the benefits of reform.

#### **NSW arrangements**

The New South Wales Annual Report in the Application of National Competition Policy for the year ending Dec '97 noted the following public consultation initiatives:

- the WAC to advise the Minister for Land and Water Conservation on water issues;
- State working groups involved in the development of water policies;
- Catchment Management Committees;
- stakeholder surveys;
- River and Groundwater Management Committees; and
- extensive consultation concerning the proposed water reform package.

The Council has been provided with many examples of the information provided to persons involved in the reform process.

IPART pricing determinations are public processes which provide for open hearings, representations and written submissions. The HRC conducts public hearings inquiries including hearings, discussions with interests groups and provision for written submissions. Reports of both bodies are publicly available.

Examples of public education programs cited in the New South Wales Annual Report in the Application of National Competition Policy for the year ending Dec '97 include: *Streamwatch*, which involves schools, community groups and councils in environmental auditing; *Waterwise* National Water Week; *Exploring the Nardoo*, a CD Rom for secondary/tertiary students focusing on water management within a catchment; and a water web site.

In addition, it is noted that SWC and HWC have advertising campaigns designed to attribute value to water and encourage conservation and SWC regional officers have education officers who visit schools.

#### **Council Comment**

New South Wales has undertaken extensive consultation on proposed water reforms. The Council commends this and the open and accountable method of price

determination by IPART; this is an important aspect of consultation regarding price reforms. The Council notes the extensive education programs and is of the view that these initiatives meet the requirements of the strategic framework.

The Council considers that there is an inherent conflict in the service provider supplying this ongoing public education on water conservation when it has a financial interest in increased water consumption. The Council notes its preliminary view that the most appropriate body to undertake this type of activity is the resource manager and not the service provider. The service provider is, however, well placed to provide information concerning water price and service conditions. The Council will review this matter with New South Wales prior to the third tranche assessment.

## ATTACHMENT 1

TABLE 10.2.4 COST RECOVERY FOR NMUs WITH MORE THAN 10 000 CONNECTIONS<sup>122</sup>

UTILITY	WATER ASSETS <sup>123</sup>	REVENUE	OMA <sup>124</sup>	ECONOMIC RoR <sup>125</sup>	SEWERAGE ASSETS	REVENUE	OMA	ECONOMIC RoR
ALBURY	91 226	6 171	4 909	-0.6%	109 566	11 176	3 372	7.1%
BALLINA	44 842	3 378	2 513	1.1%	85	6 352	2 382	3.7%
BATHURST	99 476	7 516	2 921	2.9%	79 712	4 587	2 415	0.6%
BEGA VALLEY	95 800	6 159	2 783	2.7%	68 649	5 565	2 367	2.3%
BROKEN HILL	82 000	10 471	7 439	0.7%	35 000	2 307	1 617	-1.1%
COFFS HARBOUR	112 388	10 961	3 556	4.8%	120 103	13 556	4 408	5.0%

<sup>122</sup> 18 May 1999.

<sup>123</sup> Current replacement cost (\$,000).

<sup>124</sup> Total operations, maintenance and administration costs (includes allocation of overheads) (\$,000).

<sup>125</sup> Revenue from operations less (replacement cost depreciation + operation, maintenance and administration costs) divided by written down replacement cost of operational assets.

<b>UTILITY</b>	<b>WATER ASSETS</b> 123	<b>REVENUE</b>	<b>OMA</b> <sup>124</sup>	<b>ECONOMIC RoR</b> <sup>125</sup>	<b>SEWERAGE ASSETS</b>	<b>REVENUE</b>	<b>OMA</b>	<b>ECONOMIC RoR</b>
DUBBO	89 211	7 601	4 159	2.1%	98 139	7 136	2 482	4.4%
EUROBODALLA	136 269	6 774	3 312	1.1%	110 849	7 995	3 923	1.8%
GOLDENFIELDS (water retailer)	80 851	7 336	6 262	-0.8%	N/A	N/A	N/A	N/A
HASTINGS	149 882	12 434	3 448	2.7%	118 587	11 464	3 691	4.9%
LISMORE	35 070	4 740	2 975	3.6%	92 063	8 702	2 695	0.1%
MIDCOAST	142 200	14 325	6 482	3.2%	170 000	22 794	5 999	3.8%
ORANGE	84 392	7 237	2 580	4.7%	95 340	8 935	1 564	6.5%
QUEANBEYAN	32 300	5 904	7 356	3.0%	43 651	6 167	2 318	6.0%
RIVERINA (water)	161 467	12 946	5 512	4.5%	N/A	N/A	N/A	N/A
SHOALHAVEN	203 308	18 371	6 732	4.2%	199 849	21 608	8 140	5.1%
TAMWORTH	139 592	7 607	2 603	3.3%	97 312	5 697	2 293	1.9%
TWEED	157 484	12 170	4 121	3.3%	166 545	14 613	4 096	6.0%
WAGGA WAGGA (sewerage)	N/A	N/A	N/A	N/A	not provided	6 326	2 257	not provided

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<b>UTILITY</b>	<b>WATER ASSETS 123</b>	<b>REVENUE</b>	<b>OMA<sup>124</sup></b>	<b>ECONOMIC RoR<sup>125</sup></b>	<b>SEWERAGE ASSETS</b>	<b>REVENUE</b>	<b>OMA</b>	<b>ECONOMIC RoR</b>
WINGECARRIBEEE	103 457	8 607	3 185	5.1%	83 276	6 093	2 059	3.8%

## ATTACHMENT 2

TABLE 10.2.5 TARIFF STRUCTURES FOR NMUs WITH MORE THAN 10 000 CONNECTIONS<sup>126</sup>

UTILITY	ASSESSMENT/ POPULATION	WATER ACCESS	WATER USAGE	AV. WATER SUPPLY COST	WASTEWATER ACCESS
ALBURY	17 000/ 43 000	Standard fee: \$150	0-450Kl: 10c/Kl >450Kl: 40c/Kl	\$301	Standard fee: \$220
BALLINA	13 000/ 36 000	Standard fee: \$140 Includes 75Kl allowance	75-325Kl: 30c/Kl >325Kl: 95c/Kl	\$163	Standard fee: \$370
BATHURST	11 000/ 30 000	Property Value based Includes 400Kl allowance	400-700Kl: 86c/Kl >700Kl: 61c/Kl	\$425	Property Value based
BEGA VALLEY	12 000/ 20 000	Standard fee: \$210	0-75Kl: 82c/Kl 72-130Kl: 60c/Kl >130Kl: 126c/Kl	\$430	\$500
BROKEN HILL	10 000/ 22 000	Standard fee: \$152	0-200kL: 15c/Kl 200-500Kl: 90c/Kl >500Kl: 130c/Kl	\$313	Property Value based
COFFS HARBOUR	21 000/ 57 000	Standard fee: \$143	Residential: 97c/Kl Commercial: 112c/Kl	\$309	\$460
DUBBO	13 000/ 38 000	Standard fee: \$210	52c/Kl	\$489	Property Value based

<sup>126</sup> Provided 18 May 1999.

<b>UTILITY</b>	<b>ASSESSMENT/ POPULATION</b>	<b>WATER ACCESS</b>	<b>WATER USAGE</b>	<b>AV. WATER SUPPLY COST</b>	<b>WASTEWATER ACCESS</b>
EUROBODALLA	18 000/ 31 000	Standard fee: \$245	40c/Kl	\$329	Standard fee: \$430
GOLDENFIELDS (water retailer)	9 000/ 25 000	Standard fee: \$192	101c/Kl	\$784	N/A
HASTINGS	22 000/ 51 000	Standard fee: \$190	69c/Kl	\$344	Standard fee: \$410
LISMORE	14 000/ 27 000	Standard fee: \$88	85c/Kl	\$218	Standard fee: \$295
MIDCOAST	30 000/ 94 000	Standard fee: \$168	0-50Kl: 28c/Kl >50Kl: 53c/Kl	\$274	Standard fee: \$450
ORANGE	13 000/ 31 000	Property Value based Includes 455Kl base allowance	>455Kl: 110c/Kl	\$295	Property Value based
QUEANBEYAN	13 000/ 29 000	Standard fee: \$200	0-350Kl: 42c/Kl 350-400Kl: 74c/Kl >400Kl: 105c/Kl	\$407	Property Value based
RIVERINA (water)	26 000/ 58 000	Standard fee: \$80	0-125Kl: 55c/Kl >125Kl: 70c/Kl (Non residential >500Kl: 65c/Kl)	\$314	N/A
SHOALHAVEN	44 000/ 83 000	Standard fee: \$260 Includes 250Kl base allowance	>250Kl: 70c/Kl	\$288	Standard fee: \$470
TAMWORTH	15 000/ 37 000	Standard fee: \$135	60c/Kl	\$389	Standard fee: \$276



<b>UTILITY</b>	<b>ASSESSMENT/ POPULATION</b>	<b>WATER ACCESS</b>	<b>WATER USAGE</b>	<b>AV. WATER SUPPLY COST</b>	<b>WASTEWATER ACCESS</b>
TWEED	25 000/ 58 000	Property Value based Includes 265Kl base allowance	>265Kl: 70/Kl	\$193	Property Value based
WAGGA WAGGA (sewerage)	N/A	N/A	N/A	N/A	Standard fee: \$198
WINGECARRIBEEE	15 000/ 30 000	Standard fee: \$197	0-150Kl: 52c/Kl 150-500Kl: 140c/Kl >500Kl: 166c/Kl	\$405	Standard fee: \$365 and volumetric charge

## ATTACHMENT 3: NEW SOUTH WALES ALLOCATION AND TRADING IMPLEMENTATION PROGRAM

### Requirement

The requirement for comprehensive systems of water allocations and trade, including provision of water allocations for the environment, has been achieved for the **regulated rivers** in New South Wales, excluding the Murray and Border Rivers for which environmental flow provisions are subject to inter-State negotiations. The regulated rivers account for about 80 per cent of water use in the State and include the following major river systems:

- Dumaresq/Barwon/Macintyre Rivers\*;
- Gwydir River;
- Namoi River;
- Peel River;
- Macquarie River;
- Cudgegong River;
- Lachlan River;
- Belubula River;
- Murrumbidgee River;
- Murray River\*;
- Hunter River;
- Bega River; and
- Barwon-Darling River (although this is not a regulated river it is significantly influenced by tributary regulation).

*\*environmental component subject to inter-government negotiations.*

These rivers are mature systems and can be characterised by:

- long-term embargoes on the issue of any additional entitlements, thereby protecting existing rights;
- a sound technical information base for these rivers and a sophisticated model of river operations;
- a strong and long-term understanding by the water using community of water availability; system reliability, river operations, water management framework and cost implications;

- environmental flow rules, which have been in place since last year for all the regulated river systems and in some areas for much longer. For instance, environmental allocations for the Macquarie have been in place since 1986;
- water trading on the regulated river systems has been in place since the 1980s – a mature market exists; and
- water trading rules are now being revised to examine how greater flexibility can be provided.

For the regulated cross-border systems, environmental requirements are being developed through the Border Rivers Commission in the north and the Murray-Darling Basin Commission in the south.

For the **unregulated rivers** work to achieve this outcome is now well underway. However, it must be recognised that water management of these rivers, and the understanding of water resource management issues and responses by the communities of these rivers, is at a much less mature phase.

Historically, New South Wales water management effort concentrated on the regulated systems (accounting for almost 80 per cent of water use), and water supply for major cities and towns such as Sydney and Newcastle, with little attention to individual users on unregulated rivers. The bulk of licenses are still on an area basis and little consideration has been given to environmental requirements.

However, New South Wales recognises the need to move quickly to place the management of unregulated rivers on a more sustainable footing, and this was a feature of the 1997 New South Wales Water Reforms which included:

- provision for conversion of licenses to a volume basis;
- classifying unregulated rivers according to their stress levels as a basis for prioritising action – the changes required are so great that it is impossible to deal with all rivers at once;
- introducing and maintaining embargoes on the issue of further licenses for the stressed rivers;
- establishing community-based committees to participate in river management decisions;
- introducing flow conditions to provide for environmental requirements; and
- introducing interim trading measures.

The interim trading rules for the unregulated rivers allowing trading for irrigation on an area basis was introduced in 1998. This has had to be on a fairly limited basis until New South Wales completes the process of converting all area licenses for irrigation to a volume basis. The steps and timing for the volumetric conversion process are shown in Attachment 1, which is a copy of the project plan for this work.

The process of volumetric conversion involves changing the way the entitlement is specified to incorporate two critical components – a volume of water that can be extracted in a year, and a share of the river flows on a daily basis. The latter will explicitly set aside shares of the daily flows for environmental requirements. In the unregulated river systems protection of the low flow periods is seen as the major requirement for safeguarding environmental needs.

It is planned that annual volume limits will be placed on all unregulated licences (around 12 000) by December 2000. Development of the daily access conditions will be a more difficult process and it is planned that for all unregulated rivers this will be completed by July 2001. However, for the high stressed sub-catchments (of which there are eighty-six in total and which are listed in the Attachment 4) it is proposed that the timing of these will coincide with the volumetric conversions.

As the annual and daily shares are determined and issued, the water market arrangements for unregulated rivers can be more clearly defined and the interim arrangements relaxed. New market conditions will be put in place, based on the outcomes of the Marsden Jacobs water trading report (a copy has been provided to the Council).

The **groundwater process** is outlined in Attachment 5.

## NEW SOUTH WALES ALLOCATION AND TRADING IMPLEMENTATION PROGRAM

### ATTACHMENT 4: Unregulated Catchments

#### List of High Stressed Unregulated Catchments

Barwon	Inverell Glen Innes Upper Horton Lower Peel Myall Creek Warialda Creek Phillips Quirindi Mooki
Hunter	Wollombi Black Hunter Residual Bylong Goulburn & Residual Wybong Halls Dart Pages Jilliby Jilliby
Central West	Lachlan River above Reid's Flat Mandadgery Creek Goonigal Creek Burrangong Creek Crowther Creek Castlereagh above Binnaway
	Queen Charlottes Vale Creek/Evans Plains Creek
	Summerhill Creek Lawsons Creek Bell River Molong Creek and Tributaries Unregulated Lower Macquarie System

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REGION	SUBCATCHMENT NAME
Murray	Billabong 2
Murrumbidgee	Murrumbidgee II Yass Upper
North Coast	Sheens Creek Duroby Creek Cobaki Creek Upper Brunswick River Tyagarah Creek

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Myrtle Creek  
 Tuckean Area

Alstonville Area  
 Kyogle Area  
 Terania Creek  
 Peacock Creek  
 Upper Duck Creek  
 Acacia Creek  
 Bonville Creek  
 Boambee Creek  
 Coffs Harbour Creek  
 KoRoRa Basin  
 Woolgoolga Creek  
 South Creek – South Arm  
 Missabotti Creek  
 Apsley River  
 Hickeys Creek  
 Gara River

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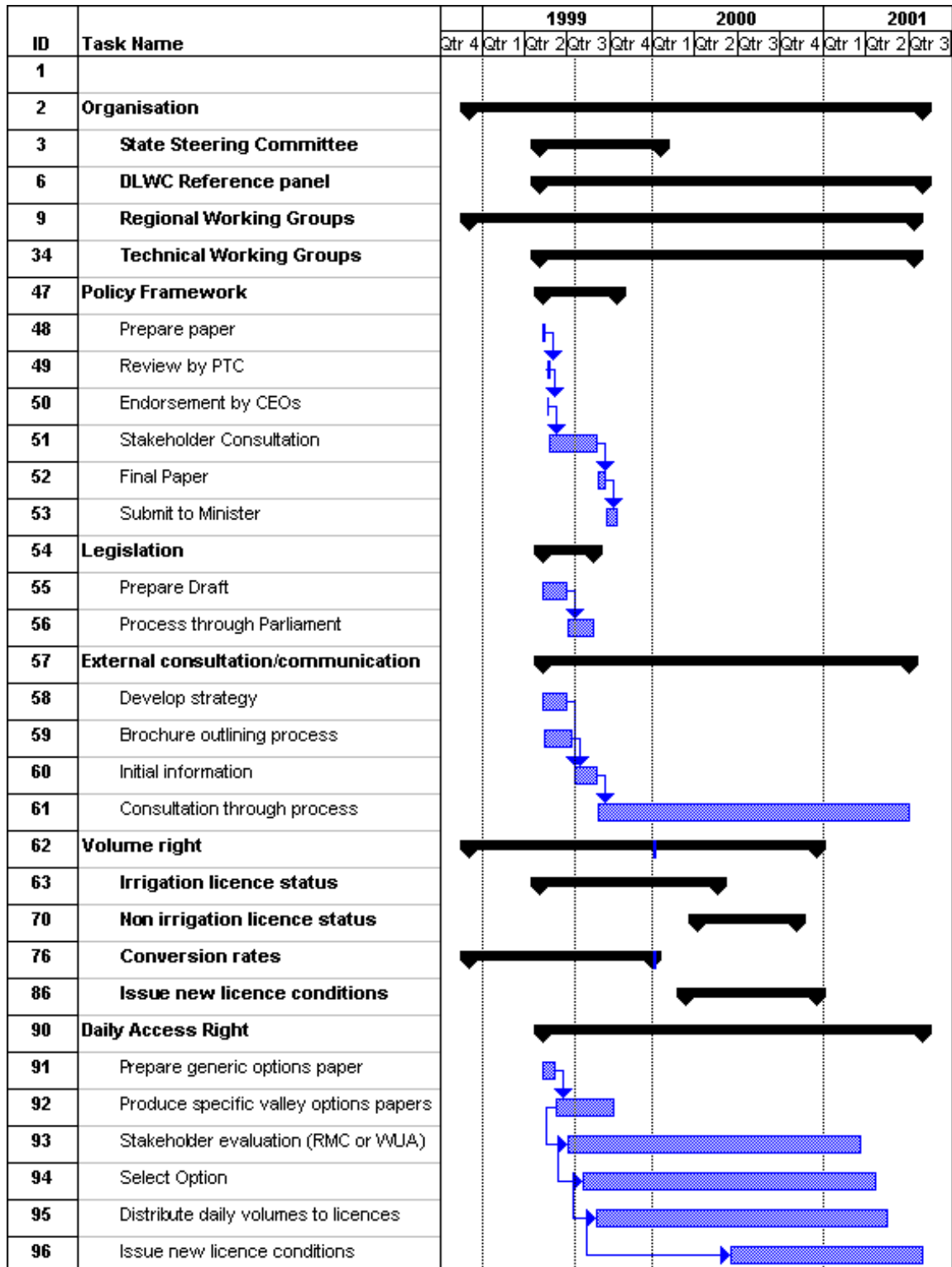
Commissioners Waters  
 Malpas Dam  
 Wilson River

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<b>REGION</b>	<b>SUBCATCHMENT NAME</b>
Sydney South Coast	Cattai Creek
	South Creek
	Nepean River
	Upper Nepean River
	Lake Burragorang
	Monkey Creek
	Lower Coxs River
	Capertree River
	Mid Coxs River***
	Upper Coxs River
	Wingecarribee River
	Upper Wollondilly
	Flat Rock Creek
	Yalwal Creek
	Lower Shoalhaven River
	Kangaroo River
	Bungonia
	Currumbene Creek
	Wolumla Creek
	Candelo Creek
Upper Murrumbidgee River	
Narira Creek	
Dignams Creek	
Maclaughlin River	

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Bombala River  
Coolumbooka River





ID	Task Name	1999				2000				2001			
		Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
107	Metering												
111	Gauging Stations												
114	Compliance												
119	Data collection												
122	Information Systems												
126	Rostering												

## NEW SOUTH WALES ALLOCATION AND TRADING IMPLEMENTATION PROGRAM

### ATTACHMENT 5: Groundwater systems

#### Implementation Program for a “*Comprehensive System of Water Allocations and Trade, including Provision of Water for the Environment*” New South Wales Groundwater

- **Priority List of Groundwater Systems**

An “*Aquifer Risk Classification Report*” was released publicly in April 1998. The Report classifies the State’s aquifers in terms of risk in relation to quantity and quality threats, rating them as high, medium or low. The following eight criteria were used to define the total risk to an aquifer system:

1. relationship between amount of water allocated and sustainable yield;
2. local interference caused by pumping;
3. large or small flow system;
4. vulnerability of aquifer to pollution;
5. landuse threats;
6. proximity to poor quality water that could be drawn into aquifer by over pumping;
7. water level rise and salinity trends; and
8. dependence of ecosystems on groundwater flow.

The results of the assessment and classification are shown in Appendix 1.

- **Implementation Actions**

Sustainable yields have been assigned to all the State’s high risk aquifers. Sustainable yields will be assigned to all other aquifers by June 2000. The sustainable yield is that proportion of the long term average annual recharge to a groundwater system available for consumptive use. Sustainable yield calculations have built in an explicit proportion of recharge to be set aside as an environmental provision. This proportion ranges from 50 per cent to 90 per cent, but has been set, for most systems, at 70 per cent of recharge.

The risk assessment identified fourteen groundwater systems where it is clear that current allocations exceed the sustainable yield of the system. Groundwater Management Committees have been, or are being, established in these systems to advise on mechanisms and timeframes to reduce allocations to within sustainable yields. These advisory process are to be completed by December 2000, and allocation adjustments implemented subsequently. Identified over-allocated systems are listed in the table below.

Upper and Lower Namoi Valleys	Hunter Valley Alluvium
Lower Macquarie Valley	Upper Lachlan (part)
Murrumbidgee Valley	Belubula River Alluvium
Gwydir Valley	Cudgegong
Great Artesian Basin	Halls Creek
Lower Lachlan	Kingdom Ponds
Lower Murray Alluvium	Alstonville Plateau Basalt

3. While all bores in New South Wales are required to be licensed, not all high yielding bores have a volumetric allocation. The Coastal and Hunter region systems have a mix of volumetric, area based and unrestricted licences. A comprehensive program of conversion of all groundwater licences is to be undertaken in the 1999-2000 financial year, resulting in a State-wide, comprehensive and consistent system of volumetric groundwater allocations in New South Wales.
4. Until such time as implementation actions 2 and 3 are completed, trading of groundwater entitlements will be necessarily limited. A set of interim trading rules has been developed which provides limited opportunities for new or expanding users, while not compromising the outcomes of the allocation adjustment processes. These interim trading rules are expected to be released in July 1999.
5. A more comprehensive and flexible trading system will be available once a consistent "currency" has been established, and volumetric allocations are within sustainable yields.

## ATTACHMENT 5, APPENDIX 1: CLASSIFICATION

### *Sydney South Coast Region*

<b>High Risk Aquifers</b>
Botany Sandbeds (GWMA 018) Maroota Alluvium and Sandstone Araluen Alluvium
<b>Medium Risk Aquifers</b>
Southern Coastal Sands Blue Mountains Sandstone Southern Highlands Fractured Rock (approximately Wingecarribee Shire LGA boundary) Sydney Basin Sandstone (GWMA 603) Hawkesbury-Nepean Alluvium Bega Valley Alluvium Miscellaneous South Coast Alluvium
<b>Low Risk Aquifers</b>
Southern Tablelands Granites South Coast Fractured Rock Aquifers

### *Hunter Region*

<b>High Risk Aquifers</b>
Hunter River Alluvium (regulated river reaches) Wollombi Alluvium Goulburn River Alluvium Kingdom Ponds Alluvium Tomago Sandbeds Viney Creek Alluvium Karuah/Myall Alluvium Williams & Patterson Rivers Alluvium Mangrove Mountain/Kulnura Fractured Rocks
<b>Medium Risk Aquifers</b>
Hunter Coastal Sands Hunter Miscellaneous Tributaries Alluvium North West Hunter Basalts Manning River Alluvium
<b>Low Risk Aquifers</b>
Wollombi Sandstone North East Hunter Fractured Rocks

Hunter Coal-Associated Fractured Rocks
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***North Coast Region*****High Risk Aquifers**

Alstonville Basalt (GWMA 804) Macleay Coastal Sands Richmond River Alluvium Richmond Coastal Sands Hastings River Alluvium North Coast Fractured Rocks Macleay Alluvium Bellinger Coastal Sands
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**Medium Risk Aquifers**

Tweed Coastal Sands Brunswick Alluvium Dorrigo Basalt North Coast Metasediments North Coast Miscellaneous Alluvium Clarence Coastal Sands Clarence Alluvium
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**Low Risk Aquifers**

North Coast Sedimentary Rocks
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***Murray Region*****High Risk Aquifers**

Lower Murray Alluvium (GWMA 016) Billabong Creek Alluvium (GWMA 014)
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**Medium Risk Aquifers**

Upper Murray Alluvium (GWMA 015)
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**Low Risk Aquifers**

Murray Fractured Rocks – East Murray Fractured Rocks - West
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***Murrumbidgee Region*****High Risk Aquifers**

Lower Murrumbidgee Alluvium (GWMA 002) Upper Murrumbidgee Alluvium (GWMA 013) Murrumbateman Fractured Rocks
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<b>Medium Risk Aquifers</b>
Muttama Creek Alluvium (part of GWMA 013) Lake George Alluvium
<b>Low Risk Aquifers</b>
Murrumbidgee Fractured Rocks
<i>Central West Region (including parts of Far West Region)</i>
<b>High Risk Aquifers</b>
Upper Lachlan (GWMA 011) Belubula River (GWMA 021) Lower Macquarie (GWMA 016) Cudgegong Valley (GWMA 010) Molong Limestone Young Granites (GWMA 802) Dubbo (within GWMA 009)
<b>Medium Risk Aquifers</b>
Bell River (GWMA 020) Orange Basalts (GWMA 801) GAB – Main (within GWMA 601) Darling River Anabranh Upper Macquarie (GWMA 009) Lower Lachlan (GWMA 012) Talbragar-Coolaburragundy (GWMA 019)
<b>Low Risk Aquifers</b>
Murray River d/s of Murrumbidgee junction Castlereagh Alluvium Lachlan Fold Belt Metasediments Upper Tributaries Alluvium Macquarie Marshes Darling River – South of Menindee Castlereagh Basalts GAB – Shallow (part of GWMA 601) Darling River – North of Menindee Macquarie-Lachlan Granites Crookwell Basalts Broken Hill Far West
<i>Barwon Region (including parts of Far West Region)</i>
<b>High Risk Aquifers</b>
Upper Namoi Alluvium (GWMA 004) Peel Valley Alluvium (GWMA 005) Border Rivers Alluvium (GWMA 022) Lower Gwydir Alluvium (GWMA 003)

Lower Namoi Alluvium (GWMA 001)  
 GAB Intake Beds (GWMA 601)  
 GAB Main (GWMA 601)

### **Medium Risk Aquifers**

Namoi Fractured Rocks  
 Maules Creek Alluvium (GWMA 006)  
 Namoi Miscellaneous Tributaries Alluvium (GWMA 007)

### **Low Risk Aquifers**

Inverall Basalt (GWMA 803)  
 Miscellaneous Fractured Rocks

### ***State-wide Situation***

#### **Inland High Risk Aquifers**

Upper Namoi Alluvium (GWMA 004)  
 Lower Murray Alluvium (GWMA 016)  
 Lower Murrumbidgee Alluvium (GWMA 002)  
 Belubula River (GWMA 021)  
 Upper Lachlan (GWMA 011)  
 Peel Valley Alluvium (GWMA 005)  
 Upper Murrumbidgee Alluvium (GWMA 013)  
 Lower Macquarie (GWMA 016)  
 Molong Limestone  
 Young Granites (GWMA 802)  
 Murrumbateman Fractured Rocks  
 Dubbo (within GWMA 009)  
 Border Rivers Alluvium (GWMA 022)  
 Lower Namoi Alluvium (GWMA 001)  
 Lower Gwydir Alluvium (GWMA 003)  
 Billabong Creek Alluvium (GWMA 014)  
 Cudgegong Valley (GWMA 010)  
 GAB Intake Beds (GWMA 601)  
 GAB Main (GWMA 601)

### ***State-wide Situation***

#### **Coastal High Risk Aquifers**

Hunter River Alluvium (regulated river reaches)  
 Goulburn River Alluvium  
 Wollombi Alluvium  
 Kingdom Ponds Alluvium  
 Tomago Sandbeds  
 Macleay Coastal Sands  
 Williams & Patterson Rivers Alluvium  
 Viney Creek Alluvium  
 Karuah/Myall Alluvium  
 Alstonville Basalt (GWMA 804)

Hastings River Alluvium  
Richmond River Alluvium  
Maroota Alluvium & Sandstone  
Araluen Alluvium  
Richmond Coastal Sands  
Mangrove Mountain/Kulnura Fractured Rocks  
Botany Sandbeds (GWMA 018)