

**Submission to the  
Independent Pricing and Regulatory Tribunal**

**Bulk Water Pricing: 2001/02 – 2003/04**

**A Submission prepared jointly by the:**

**World Wide Fund for Nature (WWF) – Australia**

**Australian Conservation Foundation (ACF)**

**Nature Conservation Council of NSW (NCC)**

**Inland Rivers Network (IRN)**



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## 1 Executive Summary

This submission is provided jointly by the Australian Conservation Foundation (ACF), World Wide Fund for Nature (WWF), Nature Conservation Council of NSW (NCCNSW) and the Inland Rivers Network (IRN) (referred to in this submission as ‘the environment groups’).

The submission is provided in two parts, the first focussing on full-cost recovery issues, and the second covering other issues relevant to IPART’s determination.

### *1.1 Full-Cost Recovery:*

The full-cost recovery section has the following structure. It emphasises that without challenging any assumptions in the DLWC submission, full-cost recovery is not being achieved and therefore commitments under COAG Water Resources Policy have not been met.

The environment groups challenge these assumptions as follows:

- 1) Costs incurred by DLWC include various elements for resource management costs and replacement of assets. Most of these costs are shared between the government and water users. However:
  - a) The cost share ratios applied by DLWC are inadequate. This leads, given the information available, to a further subsidy level of \$13.6m (row 1 of table below)
  - b) The overall level of costs included by DLWC are incomplete. This leads to further levels of costs as \$7.7m. On the groups’ proposed cost shares, this would amount to a subsidy of \$3.9 (rows 2 and 3 of table below)
- 2) Costs incurred by DLWC ignore elements of cost definitions required to reach minimum cost-recovery definitions by COAG/National Competition Policy requirements. The two options identified by the COAG cost recovery definitions are to either include interest costs and dividends as a minimum, or to recover a rate of return on assets. IPART has ruled out a rate of return on assets constructed prior to 1997. The environment groups do not accept this view, however a figure for the rate of return on assets has not been argued for in this submission. Instead, an estimate of interest costs has been provided for IPARTs consideration. This leads to a level of subsidy of \$18.8m (row 4 of table below).

The above findings are incorporated in the following summary table.

**Table 1: Summary of estimated level of subsidy to water users**

	<i>Increase (\$M)</i>	<i>Total Subsidy (\$M)</i>
DLWC Submission (expected in 2003/4)		11.6
(1) Adjust user share assumptions	13.6	25.2
(2) Increase in annuity for refurbishment needs	1.8	27.0
(3) Additional resource management costs (minimum)	2.1	29.1
(4) Include interest costs (75% allocation to users)	18.8	47.9

It is the assertion of the environment groups that not only is NSW not meeting full-cost recovery on DLWC definitions (which have proven to be considerably higher than IPART definitions), but that the full-cost recovery definition levels compared to COAG requirements are too low.

## **2 Recommendations:**

### ***2.1 Full-Cost Pricing recommendations:***

IPART should agree with DLWC to include an appropriate cost of interest on the assets employed for delivery of bulk water prior to July 1997 in its definition of full costs. This would conform to the accepted definition for the minimum level of full costs.

Prices should be set to recover full environmental costs of water extraction including costs of remediating broader environmental impacts. The cost base for full cost recovery should include the resource management costs incurred by other agencies for this purpose.

DLWC, with the support of IPART should review the allocation of resource management costs to users. The proportion of costs passed on to users should be determined based not solely on the beneficiary pays principle but also on the impactor/polluter pays principle. These costs would include the costs of remediation of past environmental damage, which has required implementation of the water reform process, and diffuse pollution impacts.

IPART should encourage DLWC to increase prices sufficiently to achieve full cost recovery by 2004. The groups consider the dislocation caused by the price rise would be minimal, due to the minor cost that water represents to the majority of irrigators. Progress in implementation of the price path should be reviewed annually and adjusted if there is a significant change in costs.

### ***2.2 Other recommendations relevant to the pricing determination:***

The groups do not concur with the proposal for a three-year price path at present given the uncertain nature of implementation of the Water Management Act 2000 and other key activities related to the water reform agenda. Alternatively, underestimates of costs over the 3-year period need to be recoverable in future submissions.

Environmental compliance costs are expected to increase due to the need to adequately implement the new licensing and approvals system under the WMA Act (ie. Adequate monitoring and auditing is necessary to maintain the integrity of the system and protect water user's rights), mitigate thermal pollution from dams and provide for fish passage. IPART should accept increased annuity figures for provision of resources to undertake necessary works and routine auditing activities.

Conservation interests have not been taken into account in the process of preparing the DLWC submission, as conservation interests have not been represented in the Customer Service Committees.

Costs incurred on behalf of water users, or due to the impact of water users, by other NSW Government agencies should be passed on to water users under the beneficiary pays and impactor pays principles. Some costs generated by the Environment Protection Authority, NSW Fisheries and the National Parks and Wildlife Service should be passed on.

The environment groups are dissatisfied with the arrangements in relation to the separation of roles between DLWC and State Water. IPART is requested to consider recommending further institutional separation. Further, there is anecdotal evidence of substantial administrative costs borne by DLWC on behalf of State Water not being passed on. In addition, the environment groups are aware that the State Water Operating Licence is still only in draft form even after over a year and a half of negotiations between State Water and DLWC staff, and does not appear to be reaching finalisation.

The conservation groups are also concerned at the inordinate power water users have to influence expenditure by DLWC on resource management. Needs of water users are elevated above other community interests, a situation further exacerbated by a focus almost exclusively on the beneficiary pays principle.

### **3 Introduction:**

The environment groups appreciate the opportunity to submit to the 2001-4 price path determination for bulk water pricing in NSW. The groups consider the DLWC submission to be an improvement on previous submissions in many aspects, with improved transparency and clarity.

This submission is provided in two main sections. The first section focuses on the issues of full-cost recovery, whereas the second section focuses on other issues relevant to the pricing determination, particularly those relating to the environment.

The full-cost recovery section considers the ability of NSW to demonstrate performance against COAG Water Policy requirements and National Competition Policy commitments. The National Competition Council (“the Council”) is in the process of conducting the third tranche assessment under the NCP. WWF and ACF have made submissions (separately) to the Council’s assessment. WWF’s first submission to the Council was almost exclusively focussed on the full-cost recovery issues in NSW. This submission to IPART provides a similar analysis, modified in the light of the DLWC submission. The same information will thus be considered by the different bodies at the same time. It is hoped that the Council and IPART will take consistent approaches.

The second section builds on the ACF Submission and WWF’s second submission to the Council where relevant to the scope of IPART’s determination. The environment groups consider that there is a strong imperative to increase the rate of progress made in incorporating environmental issues into the economic frameworks for decision making. There is a worrying trend toward delaying incorporation of environmental costs on the basis of negative social impact. This trend is focussed mostly on short-term political perspectives and ignores the willingness by most members of communities within the state to seek long-term, sustainable solutions.

## **4 Part One: Pricing and Full-Cost Recovery**

### ***4.1 Background***

The Groups consider the role of IPART to be to ensure COAG requirements are met as a result of reviewing and approving maximum price levels to be charged by DLWC for bulk water services. In this sense, the Groups support requirements for achieving full-cost recovery by 2001. We have proposed to the Council that a price path to achieve full-cost recovery is not acceptable, however, if one were to be accepted it must achieve 100% recovery. Further, more significant attempts need to be made to incorporate additional cost requirements to manage environmental externalities. To date, this has been generally put aside given the complexity of the task, however this is only allowing environmental problems to increase and therefore deferring social difficulties in the short-term.

The position of the combined environment groups is that providing a subsidy to the provision of water is not a constructive way to improve natural resource management. It

is recognised that raising the price of water to full cost recovery may require the need for structural adjustment assistance. It is noted however from the DLWC submission that the impact of the proposed price increases at present should be able to be absorbed by most farms. The environment groups consider the best way to deal with the structural adjustment assistance is through a dedicated program, which can be planned, managed and audited appropriately, rather than artificially lowering the price. Subsidies to water use should be reviewed in the light that there is already a plethora of State and Federal programs designed to assist farmers in the management of water and their properties. These include programs under the LWMP processes, the NSW Rural Assistance Authority, the Special Conservation Scheme, the Water Use Efficiency Incentive Scheme, Advancing Australian Agriculture FarmBis program as well as Exceptional Circumstances funding. In the light of these programs, environment groups do not consider subsidised water prices to be appropriate.

We understand that prices reflecting supply and demand, including full social costs, would be an appropriate pricing strategy. Given the difficulties in achieving such a price, economic regulators consider the concept of Full Cost Recovery to apply to the particular case based on efficient resource pricing and business costs.

#### 4.2 *Lack of full-cost recovery*

The groups consider that the New South Wales government has not met the COAG's requirements in terms of appropriately defining full costs of bulk water and achieving full cost recovery from users over a reasonable time period. The environment groups are concerned that even before challenging any of DLWCs or IPARTs assumptions, the DLWC Submission falls short of requirements for full-cost recovery. It fails to provide even a price-path to full-cost recovery, let alone achieve it. Once assumptions are challenged, the picture appears even worse.

##### 4.2.1 **Lack of full-cost recovery on current definitions**

Despite the proposed price increases, 17% of allocated costs will not be recovered from users by 2004. Over the three-year period from 2001 to 2004, subsidies are estimated to total over \$40 million. The following details current and forecast bulk water delivery costs and the level of recovery:

**Table 2: Current and Forecast Allocation of costs between government and users**

	Actual 99/00 (\$M)		Forecast <sup>3</sup> / <sub>4</sub> (\$M)			
<b>Government Share</b>		35.0	39%		36.1	35%
Revenue-water charges	37.1		41%	56.7		54%
Government subsidy (unrecovered costs)	17.7		20%	11.6		11%
<b>Total User Share</b>		54.8	61%		68.3	65%
Total Bulk water Cost		89.8	100%		104.4	100%



#### 4.2.2 Proposed price path does not achieve full cost recovery

In its current submission to IPART, DLWC through State Water the NSW bulk water operator, proposes a 20% per annum increase in the price of bulk water over three years. This will result in 83% of costs being attributed to users with a subsidy of \$11.5 million remaining. The proposed price path does not meet the National Competition Council's requirement for full cost recovery.

The DLWC does not propose to increase prices sufficiently to achieve full cost recovery, even if the definition of full costs is accepted and user shares of costs are considered appropriate (the groups do not accept this, as stated above). DLWC has adopted the principle that changes (price increases) should be spread over time to minimise dislocation. The DLWC initially proposed to achieve full cost recovery over the three-year price path but reduced the proposed price increases based on the response from Customer Service Committees. Under the current submission 17% of the attributed user costs are not recovered.

The feedback provided by the Customer Service Committees in support of delaying the price increases was not provided in the submission. The figures provided in Appendix 7 of the submission do not appear to provide sufficient explanation of the reasons for limiting the price increases to 20%. It certainly is not clear what threshold impact on Gross Margins has been considered to be unreasonable. This does not seem enough to cause significant dislocation to users given that the proposed price increase results in only a minimal decrease in irrigator's Gross Margins (.02% to 1.73% per annum) (DLWC (2001)). Further, there appear to be significant anomalies in the price changes if when comparing different prices across valleys. For example, there appears to be no reason why the Murrumbidgee irrigators in regulated rivers would not be able to meet full cost recovery in the first year, rather than being spread over three years. Further, there appears to be no reason why Murrumbidgee unregulated and groundwater users would not be able to absorb higher percentage increases to reach full cost recovery over the submission period. Differential pricing is of course related to the assets present in each valley. However, where charges are not at full-cost recovery levels, comparison across valleys can indicate whether water users are able to absorb particular water prices. The prices in the Murrumbidgee, when considered in total, could be increased with minimal on-farm impact.

Enterprises with the lowest Gross Margins will be the most effected by price increases, sunflowers for example. However if trading of water entitlements is implemented, these more inefficient water users will have the option of selling their entitlements to the more efficient enterprises. In this regard it is also important to note that the value of the entitlement is impacted by the price of the water. If water is priced below its full cost, the proportion of surplus value (Full cost price-current price) that should be received by the bulk water supplier will accrue to entitlement holder.

The groups do not consider that negative feedback from the Customer Service Committees is sufficient reason for further delaying mandated price increases to achieve full cost recovery. Information on the financial impact of the price increases on users indicates that significant dislocation is not likely. Further, if water trading is implemented

the current holders of water entitlements will achieve windfall profits by trading water supplied to them at a price below its cost.

#### ***4.3 Challenges to assumptions in current definitions:***

The costs included in the DLWC submission include:

- Bulk rural water activity costs.
- Annuity for replacement of assets
- Environmental and compliance costs

Elements involved in the full cost recovery definitions not included are:

- Interest
- Dividend Payments
- Return on Investment (on pre-1997 infrastructure)

The submission is focussed on challenging assumptions on the inclusion and exclusion of these costs. Firstly, user shares used to allocated costs are challenged. Secondly, environmental costs are argued to be too low. Thirdly, an argument is put forward for increased annuities on the replacement of assets to meet environmental needs. Finally, an argument is put for the inclusion of interest costs, as a minimum, if not rate of return on investment.

#### ***4.4 Insufficient proportion of resource costs allocated to users***

##### **4.4.1 User Share of Environmental Costs**

The proportion of resource management costs allocated to users is too low. IPART in its 1998 determination, considered that only 26% of DLWC's resource management costs should be charged to users, based on the rationale that irrigators do not directly benefit from these activities. The environment groups consider that a significantly higher level of resource management costs should be passed on to irrigators under the polluter/impactor pays principle. The DLWC, in its 1998 submission, identified 50% of its resource management costs, as being applicable to users. The current DLWC submission indicates a total of 45% of resource management costs to be passed on to users. This combined environment group submission recommends 80%.

In its 1998 submission, the DLWC estimated its resource management costs at approximately \$52M. These costs were allocated to users based on a beneficiary/impactor pays principle, which resulted in 50% or \$26M of resource management costs being allocated to users. IPART in its 1998 determination reduced the user share of resource management costs to 26% or \$14M. The primary rationale used by IPART to reduce users' contribution is that the general community or the DLWC and other government agencies are the major beneficiary of these resource management initiatives and that much of the work is carried out by the DLWC to meet its statutory obligations (IPART (1998)). However, this rationale ignores the fact that DLWC was, in the first place, given these statutory obligations by the parliament of NSW to combat the degradation to the state's water resources caused largely by private landholders and water users enjoying the

benefits of private property rights. The community, generally, never directly benefited from these private property rights.

The DLWC's current submission has adopted IPART's methodology, which relies primarily on the beneficiary pays principle, to allocate costs. Costs that benefit or impact the broad community are allocated to the government. Despite the fact IPART has written extensively on the reasons for its decisions, the environment groups do not concur with the reasoning. IPART have taken the view that in applying the polluter pays principle, difficulties arise due to "the complex nature of the link between water use and environmental impacts, and our incomplete understanding of that link. It is often difficult to charge for costs imposed on the environment because it is hard to assess those costs in aggregate, and it is often harder to attribute them to water consumption by particular customers" (IPART, 1996). This would be true if an attempt is made to estimate the exact costs of externalities generated, and allocate responsibility to individual users on the basis of the amount of externality they cause. However this is not the case in the DLWC/IPART methodology.

In this case, environmental expenditure by DLWC is seen as a proxy for externalities (however inadequate). Further, environmental expenditure is, as the product descriptions indicate, focussed on problems primarily caused by water extraction. It then follows that proportions of water use taken by each extractor is a reasonable basis for allocating costs between users. Whether this basis is perfect or not is not the issue. It is whether it is a sufficient estimate. As IPART have considered environmental expenditure to be a sufficient proxy of environmental externalities, so should it consider proportion of water use as a suitable proxy for the share of managing impacts related to water use.

In summary, the environment groups consider that greater weight needs to be applied to the polluter/impactor pays principle in determining the appropriate level of costs to be absorbed by users. A higher level of costs should be applied to users to remedy problems, such as the spread of blue-green algae and impacts of salinity, which result primarily from extraction of water for irrigation. Currently no costs are allocated to users for databases to manage river health despite it being required as a response to the impacts of water extraction. Catchment management planning costs are also not charged to users, nor are wetland strategies, despite being identified as a response to water extraction and river regulation on wetlands (DLWC (2001) (Appendix 6)).

DLWC have been reluctant to challenge the cost-sharing percentages approved by IPART in previous determinations. IPART have made it clear however that cost-shares would be reviewed. The environment groups consider most of the current cost share percentages to be inappropriate. The following table demonstrates user shares considered appropriate by conservation groups, compared to DLWC percentages, and a brief justification. The effect of the revised user shares on the level of costs to be recovered from users is shown in Appendix One.

**Table 3: Recommended cost-share percentages with justification**

<b>DLWC Resource Management Costs</b>	<b>DLWC percentage</b>	<b>Conservation group Percent Allocation</b>	<b>Justification of percentage (Refer to DLWC Submission, Appendix 6)</b>
Surface Water Database	50	75	The 50% share proposed by DLWC is inadequate because DLWC state the database “is critically required for river operations, water allocation and sharings” and that “the major use is related to bulk water use”. If the major use is for bulk water delivery, water users should pay for the majority of the cost.
Groundwater Database	70	90	As stated by DLWC “the majority of data collection is directly associated with high water extraction”, with fewer other users attributable than for the surface water database. Hence a 90% user cost is justifiable.
Other Water Databases (Incl. River health)	0	60	As identified by IPART, “these databases are designed to develop a statewide picture of river health and to facilitate research”. Given that flow regulation is the single greatest cause of river degradation in regulated rivers (CRC for Freshwater Ecology, March 1999: The Cap and Environmental Flows), it is legitimate to impose a user cost share of over 50%
Water information Products	0	50	DLWC states that “these reports are strongly related to water extraction and river regulation activities”. Hence it is reasonable to require a user cost share of 50%
Surface Water allocation Strategies	50	90	DLWC’s proposal of a 50% cost share is clearly at odds with its preferred rationale. Development of water sharing plans is almost solely due to the impact of extractive use on the environment. To argue that 50% of the cost should be incurred by taxpayers for this service is clearly unjustified.
Groundwater allocation strategies	70	90	As for the proposed groundwater database cost share, the vast majority of the cost of allocating groundwater should be borne by users.
Water management planning and implementation	50	90	DLWC’s proposal of a 50% cost share is clearly at odds with its preferred rationale. DLWC states “environmental flow planning is only required because of the impacts of water extraction and river regulation”. The primary share should be borne by water users, and not merely equal shares.

<b>DLWC Resource Management Costs</b>	<b>DLWC percentage</b>	<b>Conservation group Percent Allocation</b>	<b>Justification of percentage (Refer to DLWC Submission, Appendix 6)</b>
Blue-green algae strategies	50	75	CSIRO Land and Water Research has found that maintenance of low flows in weir pools and dams in warmer months is the principle factor leading to blue-green algae blooms. Hence a 75% share is justified.
River salinity strategies	50	75	Over the next three years, salinity impacts arising from poor irrigation practices will constitute a greater proportion of salinity impacts than those arising from dryland salinity. Hence a 75% cost share is warranted.
Other River Strategies	?	75	DLWC have notified (pers. comm) that the majority of this work should be in the groundwater management strategies section. A small proportion of this could have 0%, but the bulk needs to have 75% as per the next category.
Groundwater management strategies	70	75	As for previous groundwater based activities.
Wetland Strategies	0	75	A 0% user share for wetlands is not justified given that changes to flow patterns and reduced flooding are major causes of wetland degradation (R. Kingsford, Principal Research Scientist, NPWS). The NSW Wetland Strategy and subservient strategies focus principally on restoring greater flow volumes, hence a 75% cost share is justified.
Water industry Strategies	0	50	This section relates to implementation of policies plans and strategies associated with microeconomic reforms. As these are part of ongoing work of benefit to water users and the community, it seems appropriate these should be equally shared.

Source: IPART and DLWC quotations in Appendix 6 of the DLWC submission. Other references as noted in the table.

Below is further discussion of selected cost share percentages and the reasons for their adoption by environment groups.

Whilst the environment groups welcome State Water’s decision to seek partial cost recovery for environmental compliance costs, we do not accept a 50% cost share for environmental compliance costs as being appropriate. Given that water users undoubtedly derive the greatest primary benefit from dams and weirs amongst all river interests, water users should be required to contribute on average at least 75% of environmental compliance costs. Such a cost share would more realistically reflect the ratio of benefits shared between water users and the broader community from the existence and operation of such structures.

Examples of key areas of disagreement are provided below, providing further justification to the cost shares provided in the previous table.

For example, the environment groups are opposed to the 50% cost share, based by DLWC upon the 1998 IPART determination, for flood mitigation, blue-green algal management and river salinity strategies (Table 7.3, PC3, PD2 and PD3). This proportion, we argue, inappropriately apportions private and public benefits and costs from the existence and operation of dams and weirs. IPART determined a 70% cost share for groundwater allocation strategies and groundwater strategies, which could just as legitimately have provided a precedent for cost sharing for environmental compliance. There is an equally strong case for greater than 70% to be applied here.

If bulk water delivery is subject to full cost recovery (i.e. 100%), it is inconsistent to argue that costs associated with managing the structures required to deliver that water should be recovered at only half the rate (50%). The environment groups accept that there is a larger public good derived from addressing environmental problems than for bulk water delivery costs, but do not believe that this equates to half the construction cost.

Just as IPART previously permitted DLWC to partially recoup expenses incurred for the production of blue-green algal management and river salinity strategies (IPART 1998 determination, Table 7.3), it should permit costs incurred in other river management planning exercises to be similarly recovered. Major planning costs include the production and implementation of recovery plans for threatened native fish and aquatic communities (NSW Fisheries), the management of wetlands listed under the *Ramsar Convention* (National Parks & Wildlife Service), and the monitoring and research of river health (DLWC, EPA and NSW Fisheries). There is no philosophical distinction between these types of programs and those accepted by IPART in its 1998 determination as warranting some level of cost recovery from water users.

**4.5 DLWC's resource management costs do not recover the full environmental costs of water extraction.**

DLWC's resource management costs are not equivalent to the full environmental costs of water extraction. Full environmental costs must include resource management costs incurred by other agencies such as NSW Fisheries, the EPA and NPWS and the costs of environmental impacts not fully quantified by resource management costs.

The IPART Act requires that the Tribunal in its determinations consider "the need to maintain ecologically sustainable development by appropriate pricing policies that take account of all feasible options available to protect the environment."(s15(1)(f)).

The Experts Group (COAG (1995)) has classified environmental costs as River Management Costs including:

- Costs of implementing resource management initiatives
- On-going costs associated with resource management and monitoring
- The allocation of a quantity of water from natural flows to meet environmental requirements

DLWC’s resource management costs do not equate to the full costs of arresting widespread natural resource degradation because DLWC has committed vastly insufficient resources to sufficiently address identified resource management costs. Further, they do not include the environmental management costs of other agencies. Environmental damage caused by the use of water on land, such as salinity to both urban and rural areas, and erosion is not included. There are also broader environmental costs such as floodplain degradation, which are not considered.

DLWC recognises that the proposed pricing program does not address the achievement of broader environmental goals such as ecologically sustainable development and that considerably higher prices would be required for this purpose (DLWC (2001) p. 9). A study by Hassall & Associates (1998) concluded that river degradation costs were over \$300M per year for NSW. These cost estimates were considered conservative and understated due to lack of government data on costs. Estimates were made for selected categories of annual environmental costs:

**Table 4: Estimated level of environmental externalities attributable to water users**

<b>Environmental Cost Category</b>	<b>\$M</b>
Salinity (non-dryland)	77
Eutrophication( blue-green algae)	98
Wetlands	88
Tourism	41

Source: Hassall & Associates (1998)

Other environmental damage was considered, for example turbidity, erosion and damage to fisheries but no cost estimates were made due to lack of data. The study could not draw precise conclusions as to the contribution of water users to river degradation but estimated water users to be a major contributor to the problems of salinity, loss of wetlands and fisheries. If 75% of the costs of river degradation were assumed to be due to water use, total costs would be approximately \$250M.

It is recognised that internalising environmental externalities is a difficult and politically controversial exercise. However, the environment groups believe that every attempt should be made to recover these costs through pricing or if they cannot be recovered they should be made transparent.

**4.6 Inclusion of Dividends and Interest in Full Costs**

The full cost of bulk water is understated because it does not include key elements of full cost recovery definitions. In particular, it does not include any return on the two billion dollars of assets in place before July 1997. It is recognised that from IPART’s perspective this matter has been resolved through previous debate summarised in the 1996 Interim Report and 1998/9 Determination. The groups continue to disagree, however, with the IPART definition, and request IPART to ensure the full-cost recovery approach considers the minimum levels required by COAG.

The SCARM Taskforce on Water Reform developed pricing guidelines for full cost recovery (National Competition Council (2001)). In developing the guidelines it determined that there was no one best way of achieving full cost recovery, due to the varying circumstances of service providers. It provided a range of cost recovery levels, which would satisfy the full cost recovery requirement. The minimum level was the price required to maintain a viable business including the payment of interest to debt providers and the provision of dividends. The maximum price was one that recovered all costs, including a positive return on invested capital. Businesses operating above this maximum level would be considered to be benefiting from monopoly pricing. It is clear, however, that bulk water provision in rural NSW is falling short of minimum levels, and there is little risk of State Water/DLWC benefiting from monopoly pricing.

**Table 5 Cost Recovery Definitions**

Minimum-Viable Business	Maximum-All costs recovered
Operational Costs	Operational Costs
Maintenance Costs	Maintenance Costs
Administration Costs	Administration Costs
Externalities	Externalities
Taxes	Taxes
Provision for asset replacement	Provision for cost of asset consumption
Interest cost on debt	Cost of capital
Dividends	

At the very least, IPART should require recovery of estimated interest costs on debt as a minimum return to capital. The COAG Water Reform Framework requires that a positive return be achieved where practicable (COAG (1995)). The guidelines for the minimum level of full cost recovery agreed to by the National Competition Council (NCC) advised inclusion of dividend payments and interest costs in the cost base. These costs have been included in lieu of the business achieving a positive return on invested capital. The current determination of bulk water prices does not recover interest costs or dividend payments. The omission of these costs was not discussed in the submissions by DLWC or in previous IPART determinations. The definition of full costs adopted by the NCC includes the costs that would normally be incurred by a viable business. These costs should be estimated and recovered through adequate price levels. Interest cost could be significant. If it were assumed that even 25% of the \$2 billion in assets is debt funded at an interest rate of 5%, the result would be interest costs of \$25M per year.

**4.7 Rate of return on assets**

IPART has argued that existing assets should be considered as sunk costs and that only a return on investments made since July 1997 should be included in recoverable costs as a basis for determining prices. The rationale for IPART’s position is that historic investments made by the government were non-commercial and that most assets have no alternative use or opportunity cost.

While it may not be considered equitable to require a full commercial return on historic investment in assets for bulk water supply, it is reasonable from an economic perspective



to expect at least a minimal return. A prior investment being categorised as a “sunk cost” does not preclude realisation of a return if possible on existing assets. Defining certain costs as “sunk” is only a relevant consideration when evaluating the economic returns required on a new investment proposal, where sunk costs are ignored and only the return generated by the new investment is considered. Formulating pricing strategy intended to provide an adequate return on existing assets is a key management function in any business. No consideration is given to whether an asset represents a sunk cost or not. Many businesses because their characteristics invest in specialised or immobile assets. Subsequent to the investment, these assets become sunk costs, based on their lack of alternative use or opportunity cost. However, it would be management’s responsibility to achieve an adequate return on those assets.

**4.8 Areas, which are not capable of recovering full costs, should be fully justified as providing a public benefit.**

Subsidies to areas that will not be capable of ever recovering full costs are not clearly justified as providing a public benefit. The cost of providing a public benefit should be supported by a Cost-Benefit analysis including environmental and social impacts.

Several regions have been identified as significantly under-recovering costs:

**Table 6: Expected under-recovery of costs: 2003/4**

<b>Service Regions</b>	<b>Under-recovered (Percent)</b>	<b>Estimated environmental degradation (High/Medium/Low)</b>
South Coast	79	Medium
North Coast	76	Medium
Far West	65	Low
Hunter	46	Medium
Barwon	13	High
Lachlan/Macquarie	7	High
Murrumbidgee	7	High
Murray	2	High

Source: Derived from DLWC Submission, Table 4.6.3

Table 6 requires some explanation. The purpose of this table is to emphasise the divergence between current cost-recovery definitions and those considering the need for greater environmental expenditure. IPART have previously taken the view that DLWC is inefficient and therefore allowable costs should be reduced to derive efficiency costs. The environment groups support the need for efficiency and consider this approach may be valid for the management of physical human-made assets. It is argued, however, that for natural resource management different measures of productivity need to be considered. It may be that natural resource management objectives are not being achieved because the level of expenditure is insufficient.

Table 6 has been generated on the basis of estimating the level of additional expenditure required to manage the environmental problems for the Murray and Murrumbidgee. The High, Medium and Low results for the other areas are relative estimates based on the

relative environmental problems experienced. The costs for the Murray and Murrumbidgee have been included in the overall summary of costs for this submission (Table 1), however this is a gross underestimate as costs have not been generated for other valleys. The full description of costs associated with the Murray and Murrumbidgee, estimated to total approximately \$2.1m per annum for the three year period, are shown in Appendix Two.

Previous IPART reports indicated that the top four regions were unlikely to achieve full cost recovery due to over-capitalisation, primarily excess dam capacity. The groups consider that regions unable to achieve full cost recovery in the long-term should be justified by a strong public benefit. A Cost-Benefit analysis should be undertaken to justify retaining those assets considered unable to recover their full costs.

For further consideration of these broader issues see WWF's submission to the Council on full-cost pricing in NSW (WWF (2001)).

## **5 Section Two: Other issues related to the IPART Determination**

### **5.1 One Year Price Path Determination**

The groups consider a three year price path determination unacceptably long at the present time. The implementation of the Water Management Act 2000 (the 'WMA Act') is requiring significant changes in the operations and structure of DLWC and State Water. It is very difficult for DLWC and other water resource management agencies to correctly model the impact of these changes within the next few months. The groups are not opposed to a price path, once the WMA Act implementation is further progressed.

There is a strong probability that the NSW State Weir Review Committee's recommendations will be signed off by Cabinet within the next few months. It is imperative that these recommendations be included within Total Asset Management Plan. In addition, a workshop on Cold Water Pollution on the 18<sup>th</sup> -19<sup>th</sup> of June this year in Albury is likely to substantially progress a consensus-based approach towards mitigation options across agencies. These outcomes should also be included as soon as possible in the Total Asset Management Plan.

The groups strongly suggest that in the event that a 3-year price path is instituted, any unexpected increases in costs over the period be recoverable, on an indexed basis, in the following submission round.

### **5.2 Environmental Compliance: Scope and Costs**

In this section two types of compliance are discussed. Firstly, there are the costs of DLWC meeting environmental requirements. Secondly, there is the cost of DLWC ensuring licence holders comply with licencing and other requirements under water management plans.

#### **5.2.1 Costs associated with meeting environmental compliance:**

The principal current and likely future costs associated with environmental compliance are the mitigation of thermal pollution from dams and the provision of fish passage.

The NSW *Protection of the Environment Operations (General) Regulation 1998* clearly prohibits the release of water from State Water owned dams which raises or lowers water temperatures by 2 degrees Celsius or more:

*Schedule 3 prescribed matter for the definition of water pollution*

*Clause 10. Any thermal waste (being any liquid which, after being used in or in connection with any activity, is more than 2 degrees Celsius hotter or colder than the water into which it is discharged).*

Yet as many as eleven State Water managed dams in inland NSW routinely breach these provisions, with many hundreds of kilometres of river length seriously affected. Dams identified as releasing cold water in the Total Asset Management Plan or otherwise known to do so include: Blowering, Burrinjuck, Carcoar, Wyangala, Burrendong, Windamere, Keepit, Spilt Rock, Chaffey, Copeton, and Pindari.

The Total Asset Management Plan contains projected costs for investigations and works related to thermal pollution mitigation on a number of problem storages. These appear to consist almost entirely of scoping studies for the modification of existing multiple level off-takes, with the possible construction of a new multiple level off-take on Keepit Dam.

The environment groups do not accept State Water's argument that insufficient data exists on mitigation costs at the present time to be incorporated into the Total Asset Management Plan. Costings for each dam requiring mitigation should be included based upon the best available information to date, such as that included in the May 2000 report *Scoping Options for Mitigating Cold Water Discharges from Dams* (Sherman, CSIRO Land & Water, Canberra) and the March 1996 *Value Management Study of Multiple Level Off-takes on Government Owned Dams* (DPWS, 1996). State Water should have included a best estimate of the cost of the most appropriate mitigation option within the Total Asset Management Plan. Together the two reports provide sufficient information for State Water to take a proactive approach to raise sufficient revenue to fund mitigation. Should provisional estimated costs prove too high following construction of mitigation devices, water users could receive a rebate on unexpended funds.

Failure to incorporate such best estimates within the Total Asset Management Plan to permit funds to be secured prospectively from water users will delay thermal pollution mitigation by a decade or more on some dams. For example, the Total Asset Management Plan includes funding for a multi-level off-take on Keepit Dam, but construction is not due to start until 2004-05. Construction is unlikely to commence at other major polluting dams such as Blowering, Burrendong, Copeton and Wyangala for many many years at that pace.

Given that thermal pollution is noted as a threatening process by the NSW Fisheries Scientific Committee for five listed threatened species (silver perch, Macquarie perch, Murray hardyhead, southern pygmy perch and olive perchlet), such delay is unacceptable.

Importantly the NSW Government agencies involved in water reforms are actively considering a \$3.5 million trial of submersed propellers on Burrendong Dam, as recommended in the Sherman report. Yet the Total Asset Management Plan contains no costings for such a trial. This is highly unsatisfactory and the environment groups believe IPART should direct State Water to modify their price path submission accordingly.

In summary, IPART should provide a clear determination which directs State Water to prioritise the costing of mitigation of thermal pollution on all problem dams, not just those for which an existing multiple level off-take exists for modification. The revised Total Asset Management Plan should be the basis for a pricing round in 2002.

The Total Asset Management Plan contains costings for only two new fishways and two upgrades, all of which are within the Macquarie Valley. Given that State Water operate 264 weirs, many being major obstructions to fish passage, this number is unacceptably low.

The environment groups appreciate that provision for fishways within the Total Asset Management Plan is contingent upon completion of the State Weir Review Committee's weir assessment. This process is likely to be considered and accepted by Cabinet within the next few months. Nevertheless, the groups believe that the findings of the weir assessment provide a solid basis for inclusion of weir costs in the TAMP. The Committee has found that 54 State Water-owned weirs require fishways at a total cost of \$18,165,000 and a further 20 State Water-owned weirs are candidates for removal at a total cost of \$1,563,000. The total estimated cost of these works are almost \$20 million. Valley by valley costs arising from the SWRC's Weir Assessment are provided within the NSW Fisheries submission to IPART.

A three year price path determination is likely to preclude inclusion of the Committee's recommendations for at least two years – an unacceptable delay given the acknowledged severe impact weirs have on threatened native fish. The NSW Fisheries Scientific Committee states that 'barriers to fish passage' are one of the threatening processes responsible for the demise of native fish. In particular the FSC is proposing to recommend that the aquatic ecological community in the Murray, Murrumbidgee, Wakool and Edwards Rivers be listed as an **endangered ecological community** under the *Fisheries Management Act 1994*. Such a recommendation highlights the need to rapidly reduce the impacts of weirs on fish, and is a valid reason for a one year price path determination. Progress upon a recovery plan for this ecological community will be substantially advanced by mid next year.

### **5.2.2 Licence compliance activities of DLWC:**

There is little evidence of sufficient compliance activities undertaken by DLWC on the ground. On the ground audits do not appear to be undertaken systematically. There is also no publicly provided compliance statistics to demonstrate to the public that compliance is being achieved. DLWC and IPART should ensure that the level of compliance expenditure, in particular for on-ground staff, is sufficient to meet the needs of the new WMA Act. The environment groups strongly recommend an independent audit of DLWCs Compliance Program.

### **5.3 *Failure to Consult with Conservation Interests on Cost Recovery from Bulk Water Delivery***

State Water identifies environmental interests as customers (p 7) yet failed to consult with them when preparing its submission. This shows a lack of appreciation of its service provision role. Whilst State Water regularly meets with conservation interests regarding the Total Asset Management Plan, it should have accorded environmental concerns the same level of consultation as those represented on Customer Service Committees.

This is a particularly significant breach of its responsibilities given that water users appear to have successfully argued for a reduction in projected bulk water costs such that full cost recovery will not be attained by 2004.

#### ***5.4 Full Cost Recovery from Water Management Agencies***

The environment groups reject the exclusion by State Water of water management costs incurred by agencies such as NSW Fisheries, the EPA, National parks & Wildlife Service and the Department of Agriculture. Such an approach is highly unsatisfactory given that such agencies have just as an important role as DLWC in managing rivers and mediating ecological impacts arising from the delivery of irrigation water.

For example, eight regional EPA staff are members of water management committees, whilst NSW Fisheries and the NPWS also employ many staff to guide river management planning. DLWC proposes to recover 50% of costs incurred in river management planning by its own staff but has failed to incorporate similar costs of other agencies. This is a clearly unacceptable double standard.

IPART needs to actively seek actual and estimate costs from such agencies and direct State Water to include these costs within a revised pricing submission.

#### ***5.5 Institutional Separation of State Water from the Department of Land & Water Conservation***

State Water should not remain within DLWC. Rather, the environment groups consider that a Statutory State Owned Corporation warrants investigation as a potential model. State Water should be responsible to a Minister other than the Minister for Land & Water Conservation, and definitely not to the Director-General of Land & Water Conservation.

There remains a lack of transparency in State Water's operations and performance, whilst the relationship between the resource management and resource operation roles of DLWC remain indistinct. An example of how this may compromise the delivery of environmental allocations occurred recently where a State Water staff member refused to release environmental water allocations as specified in the environmental flow rules established through consensus amongst all stakeholders for the Gwydir River. Due to a lack of independent monitoring and auditing of State Water activities, neither the resource managers within DLWC (including senior State Water staff) nor EPA staff were aware of the failure to implement environmental flows. This situation persisted for as long as three years.

The Annual Operating Licence should be audited and monitored by the EPA and IPART.

#### ***5.6 Water users' influence on cost recovery:***

The environment groups continue to be concerned about the ability of users to influence the costs that are included in full-cost recovery. In the NZ fisheries example, where there has been over 15 years experience in strengthening property rights to commercial fishers, and instituting cost recovery, it has become clear that the political pressure from rights

holders has an inordinate effect on government decisions. Monitoring and research and development programs have been cut, as they are not seen to generate clear benefits to rights holders. Further, government ability to reduce quotas has been strongly reduced (Wallace, 1998). The parallel to the Australian water case is striking. Resistance to any further cutbacks in water entitlements is actively resisted by rights holders, regardless of the scientific evidence to justify the need for reductions. Compliance, for example, is increasingly required to be “customer focussed”. Presumably water users will be unwilling to accept charges associated with compliance that may not meet this criterion, no matter how important for resource management. The beneficiary pays argument often coincides with this problem. Water users may argue that research related to the improved management of wetlands is not considered as providing benefit to water users, however it is required directly in response to the activities of water users.

## 6 References

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Department of Land and Water Conservation (2001), *“Submission to IPART on Bulk Water Prices for 2001/02-2003/04”* DLWC

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Independent Pricing and Regulatory Tribunal (1996) *“An Interim Report”*.

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Wallace, C, (1998), *“Tradable Quota in Practice: Decision making, Institutions and Outcomes - the New Zealand Experience over 11 years”*, in Eide , Arne & Terje Vassdal (eds), *Proceedings of the Ninth International Conference of the International Institute of Fisheries Economics and Trade, Tromso, Norway, Vol II, IIFET, College of Fisheries Science, University of Tromso, Norway, p637-648.*



## **Appendix One: Effect on Costs from altering user share assumptions**

This appendix supports table 1 and 3 of the main submission. Table 1 includes an estimate of the increase in subsidy to water users from adjusting user share assumptions. Table 3 outlines the revised user shares and their justifications. This appendix provides the relevant calculations to show how the \$13.6m figure in Table 1 is derived using the percentages in Table 3.

**Table 7: User Shares and Total Cost Comparisons 2003/04**

	Total Costs and User Share: DLWC Submission			Total Costs and User Share Estimates: Environment Group Revisions		
	User Share (%)	Total Costs (\$000)	User Share (\$000)	Revised User Share (%)	Revised User Share (\$000)	Difference (\$000)
<b>Resource Management</b>						
Surface water database	50%	9297	4649	75%	6973	2324
Groundwater database	70%	2562	1793	90%	2306	512
Other water databases	0%	2091	0	60%	1255	1255
Water information products	0%	1121	0	50%	561	561
Surface water allocation strategies	50%	3701	1851	90%	3331	1480
Grounwater allocation strategies	70%	443	310	90%	399	89
River Quality/ flow reforms	50%	11235	5618	90%	10112	4494
Blue-Green algae strategies	50%	662	331	75%	497	166
River Salinity Strategies	50%	1702	851	75%	1277	426
Other river strategies	0%	1112	0	75%	834	834
Groundwater mgt strategies	70%	3353	2347	75%	2515	168
Wetland strategies	0%	1249	0	75%	937	937
Water industry strategies	0%	672	0	50%	336	336
	<b>45%</b>	<b>39200</b>	<b>17749</b>	<b>80%</b>	<b>31329</b>	<b>13580</b>
<b>Licences</b>						
Surface Water Licenses	100%	2677	2677			
Groundwater Licenses	100%	325	325			
		3002	3002		3002	
<b>Operations</b>						
Rural Water Supply Strategies	90%	2050	1845			
Rural Water Operations	90%	10318	9286			
Flood Operations	50%	10897	5449			
Rural Water Infrastructure	90%	38712	34841			
Provision For Doubtful Accounts	100%	241	241			
		62218	51662		51662	
Calculated Total		104420	72413		85993	
Adjustment *			636			
<b>Total- Appendix 4 Table 28</b>			<b>73049</b>			
Miscellaneous Income-Deducted			4751			
<b>Total-Schedule 4.6.2</b>			<b>68298</b>		<b>80606</b>	
* Goundwater Mgt	592					
Prov Doubtful Accts	44					
	636					

## **Appendix Two: Estimate of additional resource management costs required in the Murray and Murrumbidgee valleys.**

Estimates of additional resource management costs are provided in this appendix to support table 6 of the main submission. It is argued that full-cost recovery on current DLWC definitions is misleading. If the full costs associated with managing externalities were included, the valleys would be even further under-recovered. The higher the level of environmental degradation, the higher the chance the percent under-recovered would be higher.

Four issues have been identified where additional resources are required which do not try to be fully comprehensive. For example further costs have not been estimated for thermal pollution issues, which are likely to be significant.

The Murray and Murrumbidgee rivers were selected due to the recent proposed recommendation by the NSW Fisheries Scientific Committee to list their aquatic communities as endangered. Such a proposal highlights that DLWC vastly underestimates the real costs of water resource management in these valleys. This is particularly disturbing given that the DLWC submission claims that these two valleys are only two and seven percent below cost recovery respectively. The figures derived below demonstrate that just over \$1m per annum is being under-spent in each valley.

### **1) Weir Management:**

The purpose of weir management activities costed here is to improve the management of weirs and conducting trials of improved methods. This work needs to be undertaken by scientists in liaison with irrigators, State Water and NSW Fisheries. Estimates consist of one grade 3 (\$57,000 plus on costs) and one grade 1 (\$35,000 plus on-costs) Department Professional Officer over the 3 years for each valley. Operating Expenses of \$10,000 have been added. The total has been apportioned to water users at 90% given these activities are almost entirely related to impacts of irrigation activities, and largely generate benefits for irrigators from improved outcomes.

### **2) NSW Fisheries Fish Recovery Planning:**

The purpose of these activities is to implement threatened species and endangered ecological community recovery plans under NSW *Fisheries Management Act 1994*, liaising with other agencies, irrigators, community groups and landholders. Estimates are two staff members (DPO 3 and 1) in each valley over 3 years. Costs are apportioned to water users at 75%.

### **3) Environmental Flows Research:**

Scientific research is essential on environmental flows in the Murray and Murrumbidgee regions. Research costs are estimated as one senior scientist, 2 post-doctoral positions and 2 research officers, amounting to \$295,000 per year over the 3 years. Operating costs

are estimated at \$64,000 per year for travel, expenses and equipment. Costs are apportioned to water users at 75%.

**4) Resnagging:**

Rivers have been desnagged for a range of purposes however mostly for irrigation water delivery and, previously, navigation. Resnagging of rivers is considered essential to restoring fish populations and maintaining the ecological health of river systems. Note that the NSW Fisheries Scientific Committee is proposing to recommend the removal of snags as a **Key Threatening Process** under the *Fisheries Management Act 1994*. The activities costed here related to adding eucalyptus snags to the Murray and Murrumbidgee Rivers. Costs have been found by the Department of Natural Resources and the Environment in Victoria to be \$35,000 per km. The distance estimated here is 300km at a cost \$10.5m, with 10% added for supervision and fish monitoring, producing a total costs of \$11.55m. The overall cost is spread over 10 years, amounting to \$1.15m per annum in each valley. These costs have been apportioned at 60% to water users, reflecting the primary reason for the snagging while considering there have been other causes, such as navigation and recreation.

The costs estimated above are summarised in the following table.

**Table 8: Additional Resource Management Cost Estimates  
(For Murray and Murrumbidgee Valleys)**

	<b>Project Period (years)</b>	<b>Total Cost (\$000)</b>	<b>Annual Costs (\$000)</b>	<b>User Share %</b>	<b>User Share (\$000)</b>
<b>A. Weir Management-DLWC</b>					
Murray	3	384	128		
Murrumbidgee	3	384	128		
		768	256	90%	230
<b>B. Fish recovery Planning-NSW Fisheries</b>					
Murray	3	384	128		
Murrumbidgee	3	384	128		
		768	256	75%	192
<b>C. Environmental Flows Research-</b>					
Murray-Murray-Darling Freshwater Research Centre		See above	See above		
Murrumbidgee-CSU		See above	See above		
	3	1090	359	75%	269
<b>D. Resnagging</b>					
Murray	10	11500	1150		
Murrumbidgee	10	11500	1150		
		23000	2300	60%	1380
			5727		2072
<b>Total apportioned per year:</b>					
Murray					<b>1036</b>
Murrumbidgee					<b>1036</b>