

Submission to IPART's Mid-term Review of the SCA's Price Path

September 2002

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1 EXECUTIVE SUMMARY

In response to a specific reference by the Premier, the Independent Pricing and Regulatory Tribunal (IPART) determined a five-year price path for the Sydney Catchment Authority (SCA) from 1 October 2000 to 30 June 2005.¹ The determination set the SCA's prices for water sales to Sydney Water Corporation (SWC), as well as to Wingecarribee Shire Council, Shoalhaven City Council and other smaller customers.

As signalled in its September 2000 determination, IPART is now conducting a mid-term review of the SCA's price path.

IPART is concurrently conducting a price review of the maximum charges to apply from 1 July 2003 for each of the four metropolitan water supply authorities: SWC, Hunter Water Corporation, Gosford City Council and Wyong Shire Council. The current price paths for these agencies were also determined in 2000 and expire on 30 June 2003.

IPART released a joint issues paper for its reviews in June 2002. In the issues paper IPART indicated that it would determine a two-year price path for the other agencies thereby allowing it to synchronise future price paths for both the SCA and SWC.

Submissions from the SCA and other agencies are due to IPART on 30 September 2002. IPART will seek public submissions from stakeholders until 15 November 2002, to be followed by public hearings in November/December 2002, and a final report in May 2003.

In the event that IPART deems a price adjustment necessary for the SCA, it may need to introduce a fresh determination; in effect repealing the current (September 2000) price determination.

Section 2 of this submission records the SCA's performance to date. The section shows that, since its formation, the SCA has been steadily increasing its level of activity and hence its expenditure.

The SCA contributes to the Water Services Association of Australia's annual information assessment (WSAA*facts*). The latest available figures are for 2000-01. Figure 4 - Comparative Performance, shows the comparative performance of the SCA with the other Australian water authorities. It indicates that the SCA ranks equal to or higher than its peers in cost per megalitre.

Section 3 explains the Strategic Direction of the SCA. The SCA has a comprehensive business planning process to ensure delivery on its objectives. Section 3 outlines the SCA's key business drivers and shows that by the end of 2001-02, the SCA had spent, and is planning to continue spending, slightly more than the operating expenditure estimated by IPART.

Section 4 details the catchment management strategies that have been developed and activities that are being undertaken in response to the recommendations of the McClellan Report, the SCA Act and the Catchment Audit.

Section 5 outlines the pricing options that are available to deliver on the SCA's objectives. The section includes discussion of longer-term options, and specifically addresses in detail

¹ IPART, Sydney Catchment Authority - Prices of Water Supply Services, Medium-term price path from 1 October 2000, Determination No 10, 12 September 2000.

the concept of step pricing.

Section 6 Recommendations

To deliver on its important water quality and delivery objectives through its Business Plan, the SCA will need to at least maintain its real revenues to the end of the determination period. The SCA recognises the need to provide a financial incentive for demand management in order to maintain and improve the water supply reliability for Sydney. Given these needs, the SCA:

- strongly recommends a continuation of the current price path to June 2005;
- supports consideration of a step-price approach after June 2005.

The SCA supports step pricing in principle. However, the SCA recommends that this only be implemented after the end of the current price path, when its appropriateness has been confirmed by further research, and additional information impacting on the supply and demand balance is to hand.

2 PERFORMANCE TO DATE

2.1 Formation of the SCA

The Sydney Catchment Authority was established on 2 July 1999 as a statutory authority under the *Sydney Water Catchment Management Act 1998* with the objectives of managing and protecting Sydney's water catchments and supplying Sydney with clean, reliable bulk water. The SCA is directly responsible to the Minister for the Environment.

The establishment of the SCA was a recommendation of the Sydney Water Inquiry conducted by Mr Peter McClelland QC. The Inquiry was charged with investigating the circumstances surrounding the contamination of Sydney's water supplies between July and September 1998. A key finding of the Inquiry was that Sydney's drinking water catchments had been seriously compromised and that Sydney Water did not have sufficient regulatory control of the catchments to effectively protect the quality of raw stored waters from which drinking waters are derived.

2.2 Key Achievements

In the three years that the SCA has been in existence it has achieved many specific outcomes relevant to its objectives, including the following:

2.2.1 Supply of Quality Water

- Provided a reliable supply of bulk raw water, meeting 100 per cent of quantity requirements.
- Developed strategies, including the development of the Bulk Raw Water Quality Management Plan, to optimise the quality of water in storages.
- Commenced a structured, prioritised research program targeting sources and effects of water contaminants and activities that impact on water quality.
- Supplied bulk water to Sydney Water Corporation that met 96 per cent conformance with quality standards specified for each plant in the Bulk Water Supply Agreement, and 99.7 per cent conformance with Australian Drinking Water Guidelines in relation to pesticides and heavy metals.

2.2.2 Protecting the Health of the Catchments

- Played a major role in reviewing development proposals under State Environmental Planning Policy (SEPP) 58 to ensure the quality of water in the catchments and the storages was not compromised.
- Commenced implementing major capital works programs, in conjunction with the Environment Protection Authority (EPA), Department of Land and Water Conservation (DLWC) and local councils, to reduce sewage effluent impacts on catchments.
- Instigated responsible land management through adopting the Special Areas Strategic Plan of Management (SASPoM) and Wingecarribee Swamp and Special Area Plan of Management.
- Advanced SCA's catchment protection, enhancement and community involvement goals through the Healthy Catchments Program.
- Progressive development and implementation of the SCA's regulatory programs, including under the Sydney Water Catchment Management (General) Regulation 2000 and the Protection of the Environment Operations Act 1997 (Sydney Water Catchment Management (Environment Protection) Regulation 2001). In relation to

the latter, considerable effort has been expended in development, and implementation has now commenced.

2.2.3 Community Consultation and Education

- Incorporated key educational messages into presentation material, publications, and media stories including the importance of protecting the catchments and the role of the SCA.
- Continued the commitment to fostering student knowledge and understanding of the catchments, and assisted students seeking information and research material at secondary and tertiary levels.
- Extended links to the communities in the catchments by forming two Regional Consultative Committees and a Local Government Reference Panel, and through the provision of community grants.
- Established a central library as a community resource for catchment information.
- Commenced building a social research data set relevant to the catchment.

2.2.4 Managing the Business

- Successfully completed Operating Licence Audits with findings of high to full compliance.
- Achieved full compliance with NSW Dams Safety Committee requirements.
- Negotiated a Water Management Licence under the *Water Act 1912*.
- Achieved practical completion on the \$150 million Auxiliary Spillway Project to bring Warragamba Dam up to international dam safety standards.
- Developed action plans for sustainable energy and waste management throughout the SCA.
- Developed System Management Plans (SMPs) for the SCA's seven water infrastructure systems to provide accountable asset management.
- Enhanced preparedness to manage incidents through development of systems, processes and resources.

2.3 Income

To meet its objectives, the SCA needs an appropriate revenue stream, to be generated from the sale of water. Figure 1 shows the actual volumes of water supplied by the SCA over the past three years compared with the forecast water demands:

- contained in the SCA's Operating Licence; and
- those adopted by IPART in its 2000 determination.



Sydney Water's actual consumption for the past two years resulted in the SCA receiving approximately \$3 million per annum in additional revenue due to higher than projected water sales. The treatment of future additional income is discussed in Section 5.

2.4 Expenditure

2.4.1 Operating Expenditure

The SCA was formed with a financial base that targeted operating expenditure of approximately \$68 million per annum in 1999-00. Figure 2 compares the various operating expenditure projections made in 2000 with the actual expenditure incurred.



Figure 2 – Actual Operating Expenditure

Note. Actual expenditures have been converted to dollars of 1999-00 using indexation values of 1.9% for 2000-01 and 2.9% for 2001-02.

The "SCA 2000 submission" amounts are those proposed by the SCA in its original submission to IPART in March 2000 for the current price path. The IPART 2000 Estimate figures are the expenditures used in IPART's financial analysis on which the September 2000 price determination was based.

The Figure illustrates that the first two years were principally devoted to establishing the SCA and building up its range of required activities. The graph shows that, for 2001-02, the SCA spent slightly more than the target determined by IPART 2001-02. This was the first year to see the SCA operating at its financial capacity.

2.4.2 Capital Expenditure

In its submission to the Medium-term price path the SCA predicted capital expenditure levels of \$44.6M and \$49.8M for the period from 2000-01 to 2001-02.

A key component of the capital program was the Warragamba Spillway Project which originally was estimated to cost \$150 million. This project includes the contract for the new spillway for the dam plus various ancillary works including a Visitors Centre. The spillway contract has now been completed at a lower cost than anticipated and this has resulted in the estimate for the total project being revised down to \$123 million, with a saving of \$27 million².

Expenditure on other projects has not followed the initial estimates. This is because:

- the majority of the projects planned at the time the SCA was established were only at the preliminary feasibility stage when taken over by the SCA. In line with NSW Treasury's Total Asset Management Guidelines, the SCA considered it necessary to fully assess the condition of all its assets to satisfy itself that the planned projects were needed.
- in addition to the above, the SCA has been progressively building its capital project management expertise and is now reaching an appropriate level of capability in this area.

The forecast and actual expenditure profiles are shown in Table 1.

(\$ of 1999-00)	1999-00	2000-01	2001-02
SCA 2000 Submission			
Warragamba Spillway Project	Not applicable	36.0	38.0
Other projects	Not applicable	8.6	11.8
IPART 2000 Estimate			
Warragamba Spillway Project	Not applicable	36.0	38.0
Other projects	Not applicable	8.6	11.8
Actual expenditure			
Warragamba Spillway Project	34.8	27.7	11.6
Other projects	2.8	5.0	3.2

 Table 1 – Actual Capital Expenditure

² The \$123M project expenditure comprises expenditure prior to 1999-00 of \$21.9M (as spent by Sydney Water), actual expenditure 1999-02 derived from Table 1 of \$75.2M and the current estimate to complete of \$25.9M. (These figures are dollars of the year rather than dollars of 1999-00.)

Overall, the Capital Works Program has developed more slowly than intended. Consequently, the SCA has put considerable effort into refining its forward capital program to ensure that:

1) those projects included in the program are delivered on time and budget; and

2) the Capital Works Program delivers a strategic investment outcome for the SCA, consistent with the Business Plan.

In particular the Board has endorsed the SCA to build on its strategic relationships with the Department of Public Works and Services and the Roads and Traffic Authority (RTA).

2.5 Business Performance

Until June 2002 the SCA had two major operating divisions (Bulk Water and Catchment Protection) plus a number of support areas. In June 2002 Catchment Protection was restructured into two new divisions, Catchment Operations and Major Projects, and Environment and Policy. The following discussion relates to the previous structure.

The operating expenditure for each area is shown in Figure 3. Of note are the expenditure trends in Bulk Water (\$14.5M to \$22.9M to \$24.4M) and Catchment Protection (\$13.3M to \$17.6M to \$24.1M). The Figure shows that Bulk Water took about 12 months to reach an appropriate level of activity and expenditure. The new catchment divisions are still developing and expanding their program of required activity.





Figure 3 demonstrates very clearly that from the date of its commencement to its third anniversary, the SCA has completed its establishment. This three-year establishment phase is consistent with expectations.

The 2001-02 figures are seen as indicative of the on-going split of total expenditure between the various divisions. The results of the recent structural change (in Catchment

Protection) will be quantified in the submission for the 2005 determination.

2.6 Comparative Performance

The SCA contributes to the Water Services Association of Australia's annual information assessment (WSAA*facts*). The latest available figures are for 2000-01. Figure 4 shows the comparative performance of the SCA with the other Australian water authorities in terms of cost per megalitre.



Figure 4 - Comparative Performance³

Figure 4 shows that even with the expected increase in expenditure the SCA would still compare favourably with Hunter Water Corporation and Melbourne Water in terms of cost per megalitre.

Factors such as proximity to customers, topography of catchments and the nature of the catchments (national park or developed areas) can all have a large impact on costs. Therefore it should be recognised that cost per megalitre can be an approximate comparator.

2.7 Strategic Priorities

The Strategic Priorities listed in Table 2 were set by the SCA Board in 2000 and reflect the particular actions that the Board thought appropriate at that time to deliver on the SCA's objectives.

³ Estimated by SCA from information in WSAA*facts 2001*.

No.	Strategic Priority
1	Ensuring the reduction of sewerage effluent impacts
2	Managing existing and future discharging development
3	Facilitating the improvement of stormwater quality
4	Actively maintaining and enhancing riverine ecosystems
5	Providing education and information to stakeholders and the community and undertaking and sponsoring monitoring and research
6	Operating and maintaining bulk water and catchment infrastructure
7	Delivering bulk raw water of an appropriate quality

Table 2 -	Strategic	Priorities
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Source: Strategic Priorities Action Plan, SCA, July 2000

The Strategic Priorities have now been integrated into the SCA's Business Plan and business planning processes (see Section 3.1.1 Key Result Areas).

The performance of the SCA against the Strategic Priorities is given in Appendix 1.

3 STRATEGIC DIRECTION

The overall strategic direction of the SCA is set out in its Business Plan.

3.1 Current Business Plan 2002 – 2007

The Board of the SCA is charged with determining the policies and long-term strategic plans of the SCA. In accordance with this mandate, in December 2001 the Board endorsed the introduction of the balanced scorecard approach to strategic business planning.

3.1.1 Key Result Areas

The new Business Plan is based on seven key result areas, which address the SCA's objectives. These key result areas are:

- 1. Threats to water quality minimised *so that we continue to meet agreed water quality criteria in the short and long term.*
- 2. Sustainable and reliable water supply *so that the security of supply is assured now and in the long term.*
- 3. Commercial success *so that we achieve our statutory, commercial and contractual obligations.*
- 4. Building and sharing knowledge so that decision making by the SCA, other public authorities and the community is based on robust scientific, ecological, socio-economic and financial knowledge and information.
- 5. Results through relationships *so that we collaborate effectively and creatively with our partners, customers and the wider community.*
- 6. Dynamic, supportive workplace *so that we are enabled to meet the challenges facing the organisation both now and in the future.*
- 7. Quality systems and processes *so that we get it right the first time.*

In the lead up to the business planning process, a comprehensive scan of the SCA's operating environment was undertaken to provide an input to planning activities. The scan considered the expectations of the communities served and included internal reviews of previous strategic and planning documents. It also included outcomes of the Catchment Audit, the Operating Licence Audit, and Corporate Risk Management planning exercises. The outcomes of the environmental scan were considered in the analysis of issues impacting on SCA, which ultimately led to the development of the seven key result areas.

3.2 Business Drivers

The strategic direction of the Business Plan is impacted on by a number of external and internal drivers.

3.2.1 Sales

The key driver in providing the SCA with sufficient revenue to undertake its activities is the sale of water its to customers. The various projections of the SCA's water sales to Sydney Water over the remaining period of the price path are shown in Figure 5:





This submission has assumed the 'SWC December 2001 forecast' profile as shown above. The profile is based on Sydney Water's forecast as resolved to be adopted by the SCA board for long term planning purposes in December 2001.

3.2.2 Revenue

Sydney Water Corporation

IPART's current determination provides that the SCA's charges to Sydney Water will remain at the same level in real terms as applied in 2000-01. The tariff as shown in Table 3 is structured, for half the revenue to be obtained from a fixed charge and the remainder from a volumetric charge.

(\$ of 1999-00)	2000-01	2001-02	2002-03	2003-04	2004-05
Fixed charge (\$M)	57.6	57.6	57.6	57.6	57.6
Variable charge (\$/ML)	104.00	104.00	104.00	104.00	104.00
Revenue (\$M)	116.9	117.6	116.9	113.6	112.9

 Table 3 - Charges to Sydney Water 4

Councils and other customers

The SCA's revenue from water sales to Wingecarribee Shire Council, Shoalhaven City Council and other smaller customers is based on the following charges as currently determined by IPART:

(\$ of 1999-00)	2000-01	2001-02	2002-03	2003-04	2004-05
Wingecarribee (\$/ML)	60.00	68.00	77.00	86.00	94.00
Shoalhaven (\$/ML)	60.00	68.00	77.00	86.00	94.00
Raw water (\$/kL)	0.44	0.44	0.44	0.44	0.44
Unfiltered water (\$/kL)	0.73	0.73	0.73	0.73	0.73
Total revenue (\$M)	0.3	0.6	0.4	0.5	0.5

Table 4 - Charges to Councils and Other Customers

In addition, unfiltered water customers pay an annual availability charge that varies with the size of their service connection (ranging from \$75.00 for a 20mm connection to \$7,500 for a 200mm connection). This is the same charge that applies to Sydney Water's unfiltered water customers.

Prices to Wingecarribee Shire and Shoalhaven City Councils are indexed to movements in the CPI. Prices for raw and unfiltered water are indexed to movements in the CPI less 2 per cent.

Other income includes revenue from a number of sources, such as the provision of advice on dam safety. These are not monopoly services and are not, therefore, subject to regulation by IPART.

⁴ Adjustments to the total payments under the above charges are made to reflect two particular issues.

The Sydney Water Bulk Water Supply Agreement contained provisions for price reductions where the quality of the water fell below certain designated levels of colour and turbidity. The price reductions were capped at \$3.2 million per annum; an amount equivalent to the hypothetical average annual rebate that would have applied based on water quality during SWC's ownership of the storages. This amount of \$3.2 million is built into the SCA's bulk water usage charge to Sydney Water. Subsequently, much difficulty arose in settling on an acceptable measure of true colour. The rebate has now been deleted from the Bulk Water Supply Agreement with IPART's concurrence and the amount is being returned to Sydney Water on pro-rata monthly basis. The SCA will continue to make this rebate until IPART's next full determination due in 2005.

A second rebate relates to a chlorination plant on the Warragamba Pipeline which was included in the Governor's order transferring assets to the SCA when it was created. The pricing to Sydney Water presumed that this plant would be operated by the SCA. However this transfer was in error and Sydney Water has continued to operate the plant, which has been transferred back to Sydney Water. Accordingly, the invoices to Sydney Water have been rebating the cost of operation (of \$100,000 per month).

3.2.3 Operating Expenditure

Table 4 compares the SCA's projected operating expenditure for the remainder of the price path with IPART's estimate in the 2000 determination.

	U	-	e i		
(\$ of 1999-00)	2000-01	2001-02	2002-03	2003-04	2004-05
IPART 2000 estimate (\$M)	60.0	63.5	67.3	71.2	75.1
		tual		Projected	
SCA projection (\$M)	57.8	73.5	75.6	77.3	78.5

Table 5 – Projected Operating Expenditure

Note. The SCA projections have been converted to dollars of 1999-00 using indexation values of 1.9% for 2000-01, 2.9% for 2001-02, 2.9% for 2002-03, 2.6% for 2003-04 and 2.5% for 2004-05

The operating expenditure on which IPART's 2000 determination was based totals \$337.1 million for the period 2000-01 to 2004-05, compared with the SCA's current forecast of \$362.7 million for the same period.

The differences are primarily due to the completion of the SCA's initial planning and establishment phase, with a consequent improvement in the knowledge of the work required to meet the SCA's objectives. When the Regional Environment Plan commences, and the subsequent Rectification Action Plans are completed, the SCA will be able to forecast its longer term operating expenditure requirements with even more precision. Until such time, the SCA's operations and services expenditure is projected to remain constant in real terms based on 2001-02 as shown in Figure 6.



Figure 6 – Projected Operating Expenditure

Figure 6 provides a comparison of the following operating expenditure profiles:

• SCA 2000 Submission – operating expenditure projected in the SCA's 2000 submission for the current price path.

- IPART 2000 Estimate the amounts used in IPART's financial analysis on which it based the 2000 determination.
- SCA budgets/ forecasts the SCA's original budgets for 2001-02 to 2002-03 plus the projected (forecast) figures from Table 5 for 2004.
- Target at establishment– the initial target operating expenditure when the SCA was established.

Figure 7 shows the SCA budget for 2002-03 (\$70 million excluding insurance) split across the Key Result Areas of the Business Plan.



Figure 7 – 2002-03 Operating Expenditure

In general IPART looks to the agencies to submit details of projected efficiency savings and how the agency intends to realise those savings. Unlike the other long-standing agencies, the SCA is still continuing to develop and refine its program of activities. As such the SCA is not yet in a position to nominate efficiency savings on its operating expenditure. However, it should be noted that for the current year the SCA has limited its operating expenditure budget to the same level as for 2001-02.

3.2.4 Capital Expenditure

The Sydney Catchment Authority's capital program contains the investments required to maintain and improve the service potential of the SCA's infrastructure and to comply with contemporary standards.

The capital works program of the Sydney Catchment Authority is primarily aimed at the construction and renewal of assets that are used to collect, store and deliver bulk water to its customers. One of the core objectives of the SCA is to provide customers with a reliable bulk water supply.

Major capital projects are developed and defined within an integrated appraisal framework and evaluated against business demands including economic and financial criteria, as appropriate. Business cases are prepared for all projects, consistent with NSW Treasury and other relevant government guidelines.

Table 6 shows capital expenditure as per the medium-term price path and the current program, each divided into the original IPART categories of growth, renewals and compliance.

(\$ of 1999-00)	2000-01	2001-02	2002-03	2003-04	2004-05
IPART 2000 Estimate					
Growth	2.0	2.0	2.0	2.0	2.0
Renewals	6.6	9.8	12.0	11.2	10.8
Compliance	36.0	38.0	18.9	0.0	0.0
SCA Program	Actuals		Forecasts		
Growth	0.0	0.0	0.0	0.0	0.0
Renewals	1.9	1.1	6.5	3.7	4.4
Compliance	30.8	13.7	15.3	28.0	27.9

The program on which IPART's September 2000 determination was based totalled \$153.3 million for the period 2000-01 to 2004-05. This compares with the current forecast of \$133.3 million for the same period. The differences are primarily timing and are due to:

- a reduction in cost of Warragamba Spillway project from the original estimate of \$150 million to an estimated \$123 million;
- delays in commencing some projects due to the need for extra time to prepare rigorous business cases and acquire appropriate project management expertise;
- detailed costing becoming available and being included for mini hydro plants at dams (cost \$14 million);

The majority of the capital expenditure for the SCA lies within the Bulk Water Division and is being driven by extensive planning. Condition-based assessment studies are being undertaken for all assets (following a trial assessment of assets in the Blue Mountains). Network plans are being prepared to ensure the relevance of each asset. A detailed study of the Upper Canal has been commissioned to ensure that Sydney Water supplies are safeguarded through the delivery system.

The major projects (total cost greater than \$5 million) are as follows:

Warragamba Dam Auxiliary Spillway

This project was commenced in 1998 and the major work on the Spillway has been completed. The remaining expenditure (\$20.5 million over three years) relates to major site restoration plus the construction of a new visitors centre. The total project cost has been revised down from the original \$150 million to an estimated \$123 million (subject to outstanding contract claims).

Warragamba Dam Upgrade Major Outlet Valves

This project will provide a critical emergency safeguard against runaway conditions in the event of a burst in the Warragamba Pipelines immediately downstream of the dam. The safeguard will involve replacing the four existing outlet valves with new butterfly valves. The total cost is \$7.5 million with \$300,000 to be spent in 2002-03.

Warragamba Dam Electrical Upgrade

This project will modernise the 1950s wiring and electrical equipment to meet contemporary standards and will provide greater reliability for normal operation and

during flood events. The total cost is \$7.9 million with \$200,000 to be spent in 2002-03.

Mini hydro plants at dams

This project covers the construction of six hydro plants, one at Tallowa at a cost of \$7.7 million and five at the metropolitan dams at a total cost of \$6.3 million. The plants are all subject to business cases showing positive returns and are also subject to changes in the SCA's Act permitting it to undertake such activity. \$150,000 is to be spent in 2002-03 on further feasibility investigation work.

Prospect Reservoir Raw Water Pumping Station

This project covers the construction of a new pumping station that will provide increased capacity to draw raw water from Prospect Reservoir to feed the Prospect Water Filtration Plant in times of shortage. If the Upper Canal and/or Warragamba Pipeline supply is interrupted, the pumping station will provide backup supply for a limited time. The total cost is estimated at \$25 million with \$250,000 to be spent in the 2002-03 program.

Tallowa Dam Fishway/ Offtake

This project is a response to the requirement by the Department of Fisheries to provide a by-pass around Tallowa Dam to allow fish to migrate to the upper reaches of the Shoalhaven River and hence improve the quality of the river. The new offtake allows water of optimum temperature to be used in the fishway. The total cost is estimated at \$8.4 million with commencement now scheduled for 2004.

3.2.5 Asset Base

When the SCA was established in July 1999, the asset base it inherited from SWC was written down from \$1,653 million (in SWC's books) to \$647 million. The latter figure was independently estimated by PricewaterhouseCoopers on an economic value basis. IPART, in turn, based its 2000 determination for the SCA on an underlying 'regulatory asset base' that was derived from this.

It should also be noted that the SCA has an obligation to consider revising asset values to market valuation ("fair value"), by 30 June 2004, in accordance with the requirements of the Australian Standards and Treasury guidelines. The SCA will be considering an appropriate valuation methodology to be adopted in the coming year.

For these reasons, the SCA recommends that IPART continue using the SCA's existing Regulatory Asset Base for the remainder of the price path.

3.2.6 Return on Assets

At the time of IPART's September 2000 determination for the SCA, IPART estimated the water agencies' Weighted Average Cost of Capital (WACC) to be in the range of 4.8 per cent to 7.8 per cent on a real pre-tax basis.

IPART estimated that the price path it had determined would enable the SCA to earn a rate of return of 7.1 per cent and 6.4 per cent real pre-tax in 2000-01 and 2001-02, and 5.8 per cent to 5.1 per cent from 2002-03 to 2004-05. IPART considered this to be an adequate rate of return for the SCA.

The SCA has reviewed the water agency's WACC based on IPART's original parameters and current indicative risk free rates. The SCA considers that the original WACC range

determined by IPART in September 2000 is still relevant. Accordingly, the SCA proposes a continuation of the WACC framework underlying the existing determination.

The SCA estimates that a continuation of the existing price path will result in a return on assets of 5.3 per cent in 2002-03, 5.1 per cent in 2003-04 and 4.9 per cent in 2004-05. Details are shown in Appendix 2.

3.3 Risk

The Sydney Catchment Authority continues to recognise and manage risk. The SCA faces a number of commercial, business and operating risks that have the potential to impact on its performance.

Key initiatives in response to this issue include:

- identification of the various policy and other drivers for risk management;
- development of a Corporate Risk Management Policy;
- regular reviews of corporate risks;
- development of a Risk Management Manual; and
- specific programs and actions designed to address and manage key risk areas.

The Risk Management Plan establishes the organisational context for risk. It includes a rigorous identification of all risks, analyses the identified risks, and evaluates the risks against pre-established criteria. Risks are then categorised, and the adequacy of treatment strategies evaluated. Specific treatment strategies and action schedules are included, where warranted, with performance criteria set including monitoring, reporting and review processes. For instance, the Pollutant Source Risk Management Plan addresses those risks from pollutant sources within the catchment.

Table 7 below identifies risks that have the potential to cause significant changes in either expenses or revenue. The risks are a subset of the overall risk profile of the SCA, as identified in the Corporate Risk Management Plan.

Business Segment	Category	Risks	Indicators of Each Risk	
Catchment Protection	CatchmentRevenueWater QualityProtection		Various water quality parameters	
	Expenses	Bush Fire Damage	Fire Occurrence	
Bulk Water Supply	Revenue	Water Availability	Supply Level, Climatic and Supply models	
	Revenue, Expenses	Asset Failure	Asset Condition Monitoring	
	Expenses	Drought Pumping	Supply Level, Drought and pumping protocols	
Insurance and Legal	Expenses	Contractual Liability	Claims and insurance related information	

Table 7 - Significant Risks

Analysis of these risks and management planning for them are contained within the SCA's Risk Management Plan.

4 CATCHMENT MANAGEMENT

A primary reason for the formation of the SCA was the need to significantly improve the management of the catchments, through both direct activity and better planning and regulation. Consequently, a priority of the SCA since formation has been to develop an effective approach to catchment management. This section describes aspects the SCA's approach to catchment management.

4.1 Background

The *Sydney Water Catchment Management Act 1998* defines the roles, functions and objectives of the SCA. It charges the SCA with:

- ensuring that the catchment areas and the catchment infrastructure works are managed and protected so as to promote water quality, the protection of public health and safety, and the protection of the environment;
- ensuring that water supplied by the SCA complies with appropriate standards of quality;
- conducting its activities in compliance with the principles of ESD where the SCA's activities affect the environment;
- managing the SCA's catchment infrastructure works efficiently and economically and in accordance with sound commercial principles; and
- undertaking research on catchments generally, and in particular on the health of the SCA's catchment area.

The SCA is responsible for a catchment area covering more than 16,000 square kilometres. The area extends from north of Lithgow to the source of the Shoalhaven River near Cooma in the south, and from Woronora in the east to the source of the Wollondilly, west of Goulburn.

The SCA has joint responsibility with National Parks and Wildlife Service for management of over 370,000 hectares of land in the special areas. It also directly manages 30,000 hectares of land in the Braidwood region. The special areas are lands that have been identified as being important to protect the quality of the stored waters or for the maintenance of ecological integrity.

The SCA has also been authorised by regulation to carry out certain regulatory functions throughout its area of operations. These include concurrence powers for certain new developments in the catchment, powers to protect the environment in the catchment and regulation of activities in the special areas.

Catchment protection is the responsibility of two SCA divisions: (a) Environment and Planning and (b) Catchment Operations and Major Projects.

4.2 Plans and Activities

The plans and activities of the catchment divisions are anchored in the Key Result Areas of the Business Plan. Some of those that incur or have the potential to incur substantial expenditure relate to the following:

- Healthy Catchments Program (Assistance schemes)
- Regional Environment Plan

- Risk Management Plan
- GIS Services
- management of SCA land (projects and programs)
- regulatory and extension activities

4.3 Structure - Environment and Planning Division

4.3.1 Development Control

The Development Control section is responsible for assessing over 700 development applications that are referred to the SCA each year. It is also responsible for assisting planningNSW with development of the Regional Environment Plan. Significant effort is being applied to the development of catchment strategies including Strategic Land and Water Capability Assessments and Rectification Action Plans.

4.3.2 Environment and Resource Planning

The Environment and Resource Planning section is responsible for the SCA's environmental obligations. These include the management of heritage items, preparation of the Environment Plan and the Waste Reduction and Purchasing Plan, environmental assessment of SCA activities and environmental training. They also provide an important role in natural resource policy development both internally and externally.

4.3.3 Research

The research section of the SCA is working to provide the organisation with a technical basis for setting priorities for catchment rectification and determining the appropriate management practices to be used to reduce pollution. Its current priorities are to determine where pollution occurs, how the pollutants are being modified over time by the environment, and where the pollutants are deposited. It is also putting effort into determining the impact of different types of pollution on public health and the environment.

4.4 Structure - Catchment Operations & Major Projects

4.4.1 Operations

The Operations groups each have responsibility for management of land owned by the SCA. In the northwest and southeast, these lands are jointly managed with the NPWS. The Braidwood group manage the SCA's lands in the vicinity of Braidwood.

The responsibilities of the Operations groups include:

- management of land and all that it entails, i.e. pest and weed management, fire management, authorised and unauthorised access management, road maintenance and rehabilitation of degraded lands (abandoned mines and farms), etc.
- initiation and development of projects, such as chemical collections, rehabilitation, management plans. Often work is undertaken in partnership with industry, landcare groups, other agencies or individuals, as important contributions to and by people in the catchments.
- inspection of polluting activities, development proposals and application of the SCA's

environment protection regulatory powers.

- liaison and extension activities with catchment stakeholders.
- assistance with developing improved strategies for land/ catchment management. In many cases the aim is to improve the management of land such that water quality outcomes are achieved without reducing the profitability of the stakeholder.
- monitoring implementation of assistance schemes.

4.5 Current Catchment Management Programs

4.5.1 Healthy Catchments Program

The SCA has a number of assistance schemes that broadly come under the heading of the Healthy Catchments Program. The program was funded to a level of approximately \$7 million for 2001-02. The level of funding of assistance schemes is expected to remain at similar levels for the foreseeable future but the level of funding applied to different components will vary according to on-going risk assessments.

Currently, there is an emphasis on sewerage infrastructure and sewage effluent. The SCA is contributing to the Department of Land and Water Conservation's Water Supply and Sewerage Supply scheme to accelerate overcoming the sewerage backlog in the drinking water catchments. Approximately \$4 million per annum for the next five years has been committed to this scheme. The SCA has an Agreement with the Department of Land and Water Conservation that provides direction on how SCA funding will be applied to ensure the outcomes meet SCA requirements.

In addition, the SCA is working with local councils in its area of operation to model sewage collection systems (hydraulic and hydrologic) in the area. The models will provide the SCA and councils with an understanding of the condition of collection systems, as well as the location and nature of any problems. The models will also provide a tool to test scenarios for rectification. The models will be able to predict the results of refurbishment works. Following refurbishment, sewerage systems will be able to be monitored to determine the accuracy of the model. The SCA is also assisting councils to accelerate their sewerage refurbishment programs.

The <u>Catchment Protection Scheme</u> is a long running program, jointly funded by DLWC and the SCA (and its predecessor). It directs funding to remediation of historically degraded lands, education, planning and training in the areas of property management planning and RiverCare.

The <u>Catchment Protection and Improvement Grants Scheme</u> provides seed funding for individuals or groups for a wide variety of projects aimed at improving land use and protecting water quality. The grants are limited to approximately \$8,000 per application.

4.5.2 Catchment Enhancement and Protection Program

A major initiative set up under the umbrella of the Healthy Catchments Program has been the Catchment Enhancement and Protection Program (CEPP).

Established in 2000, the CEPP has an important role in assisting community and government to undertake and encourage improved land and water management. Whilst the major CEPP projects are now complete, some remain to be finished within the 2002 calendar year.

The Stormwater Improvement project, initiated under the CEPP, has since been identified as requiring independent management. Funding for stormwater improvement projects will, in the future, be available under a fully functional assistance scheme. The Stormwater program has funded more than 13 projects. Councils in the SCA's area of operations are invited to make submissions to the SCA for stormwater improvements. An expert panel assesses all submissions, and funding is allocated on a priority basis. Just over \$1 million was allocated to stormwater projects in 2000-01 and 2001-02.

4.5.3 Other Programs

As strong strategic directions have taken shape over the past two years, some other initiatives and programs have been developed for water quality protection. These include:

- <u>Roads Grants Program:</u> This is a scheme for assisting local government. There are a large number of unsealed road crossings of waterways in the SCA's area of operations. The SCA has, for the past two years, invited councils (in its area of operations) to provide submissions for improvements to creek crossings and roads leading up to watercourses.
- <u>Priority Industries Program:</u> This program identifies intensive activities in the catchment that are contributing to poor quality water to rivers and streams. It currently assists dairy farmers by providing funding for the management of dairy effluent disposal facilities. Once all dairy farms in the catchment have been examined and treated the program will move onto the next priority industry.

Catchment operations staff also undertake a wide array of projects. Projects are categorised under such headings as 'fire management', 'pest and weed management', 'water quality protection', 'riparian works' and 'data collection' to name a few. These projects help alleviate issues impacting water quality in the catchments. They also greatly improve the community's understanding and perception of SCA activities.

4.6 Major Planning Instruments for Catchment Protection

4.6.1 Regional Environmental Plan

The SCA's Act requires a Regional Environmental Plan to be developed to:

- impose development controls, including a requirement for new development to have a neutral or beneficial effect on water quality
- set water quality objectives
- require action plans to rectify development that does not have a neutral or beneficial effect the quality of water

Rectification Action Plans are proposed for the 29 identified sub-catchments. The plans are expected to rectify the impact of any existing development or activity that does not have a neutral or beneficial effect on water quality.

4.6.2 Regional Environmental Plan

The first draft Regional Environmental Plan (REP) went on public exhibition from October 2000 to March 2001. The exhibition received significant local interest with over 1000 catchment stakeholders attending public meetings and providing over 400 written submissions. In March 2001, the Minister for Urban Affairs and Planning announced that a revised draft regional plan would be prepared to address the concerns raised by stakeholders and that the plan would be re-exhibited for further public comment.

PlanningNSW and the SCA have been working closely with local government, industry, landholders and other interest groups of the catchment to revise the regional plan. Five regional community groups have been established. Membership of those groups includes local councils, mayors, members of parliament, landholders, business and other interest groups.

During 2001-02, as well as assisting PlanningNSW undertake extensive community consultation, the SCA has developed an education and awareness strategy for inclusion in the revised regional plan. The SCA has also progressed initial work on a number of the catchment management strategies proposed in the plan. It includes:

- collation of best management practices
- development of pilot strategic land and water capability assessments
- initial planning for the preparation of rectification action plans.

The revised *draft* regional plan is currently being finalised and will be submitted to Cabinet shortly, prior to its public exhibition.

4.7 Financial Implications

The SCA expects to be able to manage the likely initial requirements of the REP within the current price path. The matter will however need to be revisited as part of the 2005 price determination process. The catchment related budget for 2002-03 (\$23.6 million), split across the Key Result Areas of the Business Plan, is shown in Figure 8.





5 PRICING OPTIONS

This section discusses the short and longer term pricing options available to the SCA.

5.1 Short Term Price Options

In the short term, a range of regulatory and policy changes are in train. These developments are being undertaken across government but have the potential to impact significantly on the operations and activities of the SCA. They include:

- Environmental flow determination for the Hawkesbury-Nepean through:
 ? analysis and recommendations from the current Hawkesbury-Nepean Forum
 - ? decisions by the Minister for Land and Water Conservation on those recommendations.
- Development of urban water policy, including:
 - ? institutional arrangements for stormwater
 - ? determination of the effectiveness of Sydney Water's demand management program
 - ? establishment of re-use markets.
- Calculation of sustainable consumptive yields from SCA storages. These are subject to the outcomes of the processes above, especially environmental flows.

Potential implications of these processes could include substantial change, in the near future, to the resource value of water in the Sydney basin. Moreover, measures such as water trading, for example, could have a marked impact on how we manage this vital resource.

A pricing decision, for the SCA, that pre-empts the outcomes of the above policy developments, could result in inappropriate incentives for future resource use. Allowing the SCA's existing price path to run its course for the full five years, as originally intended in the Premier's Reference, would be consistent with ensuring regulatory and financial stability for the SCA. Importantly, the financial implications for SCA customers of prices continuing along the current price path remain as accepted by IPART in its original 2000 determination.

These reasons suggest strongly that the SCA's existing pricing determination should be maintained until its conclusion in June 2005.

The financial outcomes of maintaining the current price path for the SCA are set out in Appendix 2.

5.2 Longer Term Price Options

5.2.1 Full volumetric pricing

Full volumetric pricing (i.e. a flat per unit volume charge from the first to the last ML supplied) was discussed by IPART within the Issues Paper. Volumetric pricing has strengths and weaknesses.

Its strengths include providing a strong incentive for demand management with the ability for the price to be varied to reflect opportunity costs at different times of use. On the other hand, a possible weakness is that full volumetric pricing may not recover sufficient revenues to cover total costs.

The traditional approach to situations where marginal cost based usage pricing does not cover total cost is to use fixed charges to cover fixed costs, and to strike appropriate volumetric charges to cover marginal or variable costs. The SCA argued at the 2000 determination public hearings that the 50:50 split of fixed and volumetric charges in the current price regime, was appropriate as a starting point given the high proportion of fixed costs in bulk water delivery⁵. Regulated pricing systems which do not allow recovery of fixed costs are facing increasing criticism ⁶ as such pricing systems do not allow business owners to recover total costs and hence act to discourage new investment. In Australia at present many regulated industries need to attract new infrastructure investment.

In situations where industries are reliant upon or source key strategic inputs from natural resource systems the extent of the exploitation of these natural resources needs to be considered and weighed in structuring pricing systems. In the case of water in Sydney, the safe yield of SCA's storages has been calculated at 600,000 ML per year. Currently the demands placed on the system by urban Sydney amount to approximately 625,000 ML per annum. Confronted with ongoing resource scarcity a reassessment of the existing tariff structure may be called for.

Accordingly, this option could be explored further in the lead up to the 2005 review, having regard to projected water demands at that time, likely environmental flow options, and issues of increasing water scarcity.

5.2.2 Step Pricing

Rather than pricing all volumes at a fixed unit price, prices can be set to rise (inclining block tariff) or fall (declining block tariff) depending on the volume demanded. Such pricing systems are often rationalised in a retail setting to allow for equity of access to water. This allows for a low price to apply for minimum volumes, such as for use associated with basic necessities like drinking and washing. Above a certain level where "discretionary" uses are assumed, a much higher rate applies. In its Issues Paper IPART discusses this pricing approach.

A principle advantage of such a pricing arrangement is seen to be the strong pricing signal given to conserve water while at the same time making water available for basic water needs. However, where the water tariff also includes a fixed charge it is possible to achieve a water conservation signal through a higher usage charge while at the same time maintaining the simplicity of a single volumetric price. This can be achieved by reducing the fixed charge in such a way that compensates low water users. While this is primarily an issue for retail prices and hence Sydney Water's tariff arrangements, the Sydney Catchment Authority, as the bulk water supplier, clearly has a vital interest in the matter. It is felt that this aspect should be more closely considered in 2005 as part of a considered long-term strategy to address water scarcity.

⁵ Transcript, Independent Pricing and Regulatory Tribunal Review of Water Charges by Sydney Catchment Authority, 15.3.00 Column 31, lines 11-44

⁶ Gary Banks, Chairman, Productivity Commission, 2002, " 'The 'baby and the bath water': avoiding efficiency mishaps in regulating monopoly infrastructure" Paper Presented to Independent Pricing and Regulatory Tribunal (IPART) Conference "Incentive Regulation at the Crossroads", Sydney, 5 July.

In relation to bulk water, IPART have suggested that an inclining block tariff arrangement also apply to the water the SCA sells to SWC. The motivation for such a tariff structure is again to foster and encourage water conservation. At the present time there is a substantial difference between the volumetric wholesale or bulk water price of 11ϕ per kilolitre and the retail price of 94 ϕ per kilolitre. Assuming that Sydney Water's variable costs are 9ϕ per kilolitre⁷, the net difference of 74 ϕ could act as a powerful incentive on Sydney Water to seek to sell more water. At the very least it sends inconsistent messages to SWC between selling more water and fostering water conservation through its demand management programs.

A bulk water stepped tariff structure is intended to remove this incentive by effectively "taxing" away the gross margin that would be derived from selling additional units of water at the retail level.

Figure 9 sets out IPART's suggested price structure. For SWC consumption less than the "demand management threshold" a lower block price would apply for SCA's sales to SWC. This block could be the similar to the current usage price. Above the threshold, the SCA's price would 'step up' to such a level that SWC's retail revenue would effectively be passed through to the SCA (less SWC's variable costs). Figure 9 is based on IPART's example of settings for a step price.



Figure 9 - Step Pricing Settings

For example, under a step pricing regime the average price that the SCA charges Sydney Water would rise from the equivalent of 22ϕ per kilolitre to 85ϕ per kilolitre, leaving Sydney Water a margin of 9ϕ per kilolitre to cover its variable costs (e.g. treatment and pumping). The figures are indicative only and would need to be carefully investigated prior

⁷ This is implied from IPART's Issues Paper, where it is assumed that SWC's marginal costs are 20c/kL, of which SCA's charges would make up 11c/kL.

to setting the step price.⁸

A broad approach to step pricing was mooted by the SCA in its original submission for the 2000 determination. Further detailed consideration of step pricing continues to have the SCA's support. However, there are several issues regarding the setting of the step increment that need to be considered in detail before implementation is possible.

In particular, the setting of the step price increment would, in theory, need to reflect the opportunity cost of the extra water consumed. The approach currently proposed by IPART removes inappropriate price incentives. However, it is not clear whether it provides an appropriate price incentive for the use of marginal water. The economic (or opportunity) cost of alternatives, such as re-use or the provision of other alternative water sources for example, would need to be investigated and considered as part of the price setting process.

The SCA recommends that the IPART proposal should be carefully considered for implementation, and that more research be undertaken to find the appropriate step price level. The SCA further recommends that these investigations be undertaken in preparation for implementation in the next determination period commencing in 2005.

5.3 Service Quality

The SCA's Operating Licence enables the SCA to provide, construct, operate, manage and maintain systems or services for the purposes of exercising its functions in accordance with its Act. The licence was granted to the SCA on 30 June 1999, amended on 19 April 2000 and expires on 31 December 2004. IPART is currently conducting a mid-term review of the licence.

The standards of service required of the SCA in its Operating Licence include, quality standards for bulk water, catchment management standards, and water supply standards. IPART regulates the licence and conducts audits of the SCA's performance against the licence requirements every year. The audit for the year ending June 2002 is currently underway.

In addition, the Bulk Water Supply Agreement between Sydney Water and the SCA specifies specific water quality standards, and as required the SCA has developed a Bulk Water Quality Management Plan to ensure those standards are maintained.

To date the SCA has achieved excellent performances in successive Operating Licence Audits confirming its consistent maintenance of high service quality against the wide range of standards required of it.

⁸ There are precedents for such an approach, as Singapore introduced step pricing over a four-year period, commencing in 1997. The system was introduced in conjunction with water recycling investments (NewWater) and other supply diversification options. Singapore has an inclining block tariff for domestic consumers, with a resources tax (30per cent) on top. Singapore is particularly vulnerable to water supply reliability since it must purchase a large portion of its water from Malaysia.

6 **RECOMMENDATIONS**

This section sets out the SCA's reasoned recommendations for prices from 1 July 2003 onwards.

To deliver on its important water quality and catchment management objectives, through its Business Plan, the SCA will need to at least maintain its real revenues to the end of the determination period. The SCA recognises the importance of demand management for maintaining and improving water supply reliability for Sydney. Given these needs, the SCA:

- strongly recommends a continuation of its current price path to June 2005;
- supports IPART's consideration of a step-price approach after June 2005.

6.1 Pricing Recommendation

The SCA proposes that IPART's existing determination be followed for the remainder of the price period from 1 July 2003 to 30 June 2005 as shown in Table 8 below.

(as per IPART's 2000 determination)	2003-04	2004-05		
Sydney Water				
Fixed availability charge (per calendar month)	\$4.8 million plus CPI (1,2,3)	\$4.8 million plus CPI (1,2,3,4)		
Volumetric charge (\$/ML)	\$104 plus CPI (1,2,3)	\$104 plus CPI (1,2,3,4)		
Wingecarribee and Shoalhaven Councils				
Volumetric charge (\$/ML)	\$86 plus CPI (1,2,3)	\$94 plus CPI (1,2,3,4)		
Raw Water		•		
Volumetric charge (\$/kL)	\$0.44	\$0.44		
Unfiltered Water				
Fixed availability charge (per annum)	$=d^{2}*75/400$ (where d is nominal diameter of connection			
Volumetric charge (\$/kL)	\$0.73 plus CPI (1,2,3)	\$0.73 plus CPI (1,2,3,4)		

<u>Note</u> CPI (1,2,3,4) is as defined in the Appendix to IPART's 2000 determination as CPI_1^{-GST} , CPI_2^{-GST} , CPI_3^{-GST} , CPI_4^{-GST} , respectively.⁹

⁹ IPART, Sydney Catchment Authority - Prices of Water Supply Services, Medium-term price path from 1 October 2000, Determination No 10, 12 September 2000.

6.2 Future Option - Step pricing

In its submission to the 2000 determination¹⁰ the SCA proposed a volumetric excess charge for demands above a given threshold. Accordingly, the SCA is supportive of the principle in IPART's Issues Paper for a step price approach.

The SCA proposes that step pricing be considered for adoption after the expiry of the current price path in June 2005 to allow sufficient time for more information to be obtained on a number of relevant issues. This, in turn, should lead to a superior approach to step pricing when dealing with issues such as the demand threshold, method of implementation and the use of any additional revenues generated to achieve the desired outcome of reducing demand.

¹⁰ Medium Term Pricing Submission to the Independent Pricing and Regulatory Tribunal of NSW, 2000, SCA, p. 49.

APPENDIX 1 – STRATEGIC PRIORITIES OUTCOMES

The following table sets out the progress made on the Strategic Priorities in the determination period, and lists outstanding issues.

Strategic Priority	Status			
1. Reduction of sewerage effluent impacts	The Catchment Sewerage Needs Analysis Project was completed in July 2001. This dealt with both currently sewered areas, and unsewered villages. Results of this are to guide SCA's current Accelerated Sewerage Scheme (ASS), which has been signed with DLWC and an initial \$4M of funds allocated.			
	The EPA is conducting a progressive review of licences across the State, and the SCA is providing comment on licences for sites in its area of operations. The SCA is also using the review period for EPA Pollution Control Licences to request that an incident notification requirement is inserted in Licence Clauses. This program has identified 85 high-risk licensed premises where a systemic coordinated review is under way. The Development Control Section is forming a development assessment checklist, with guidelines for wetland and groundwater impact, which will be used to assess sewerage treatment plant impacts.			
	Catchment Operations and Bulk Water are involved in trial of the UWS Ecomax On-site sewage management system at Woronora. Other management strategies associated with on-site sewage systems and connection to sewer will flow out of the Regional Plan. The SCA is involved in a land-use mapping project for unsewered areas as part of Regional Plan development, and has provided assistance for an on-site system inspection-training program in the Mulwaree Council area.			
	The SCA has provided assistance to Councils in the catchment to address aging sewerage infrastructure (above that provided under ASS). This includes pipelining, works on Goulburn Sewerage Treatment Plant, low pressure sewer installation and reticulation system modelling, all of which will reduce sewerage overflow pollution in the catchment.			
2. Management of other discharges	In December 2000, the SCA prepared a five-year risk management plan for pollution sources in the water supply catchment area. Termed the Pollution Source Risk Management Plan (PSRMP), this identified and assessed the types of pollution sources in the Catchment and developed actions to address threats to water quality and catchment health.			
	Of the 29 actions identified for 2001 implementation, 19 were commenced in 2001, five were commenced in 2002, one is awaiting commencement and four were removed from the program due to redundancy. Of the 10 actions identified for 2002, seven were commenced in 2001 and three commenced in 2002.			
	The Development Control Section reviews water cycle management studies prepared for development proposals, and imposes appropriate			

Table 9 - Progress Against	t the Strategic Priorities
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Strategic Priority	Status		
	conditions to development consent according to a standardised criteria. This manages discharges from storm events.		
	The Sydney Water Catchment Protection Regulation commenced in March 2001, and provides the powers for the SCA to protect the catchment from water diversion and polluting activities, for example: livestock control.		
3. Improvement of stormwater quality	The SCA has established two projects to promote the best practice management of urban stormwater. These are the Stormwater Improvement Program, and the Stormwater Strategy.		
	Council Stormwater Management Plans are complete, and have been reviewed. Catchment Protection has reviewed the SCA's Grants programs, and is informing Councils of the most likely eligible projects for funding from the SCA. Already funding is being provided to Council drain stencilling and catchment signage programs which will reduce pollution to the SCA's catchments.		
4. Improving riverine ecosystems	Environmental Flow releases currently required under the Water Management Licence are in place using existing infrastructure, except for Avon Dam, where structural constraints prevent the release of high (95 th percentile) environmental flows.		
	Future release requirements include those for Woronora Dam which are due to commence no later than 1 st January, 2003, and for which modification of outlet works are in train. For other rivers, when a future release strategy has been finalised, a review of infrastructure modification and monitoring will be undertaken for long-term reliability needs.		
	The Hawkesbury Nepean River Management Forum is to recommend environmental flows, and the SCA is represented on, and provides input to this forum. The establishing of environmental flows downstream of water storages does not, however, impact on the quality of stored waters, but rather most significantly on security of supply, and possibly system operation. The Forum's Terms of Reference, for example, includes consideration of inter-basin transfers from the Shoalhaven River.		
	The revegetation of riparian lands, the enhancement of wetlands, the control of exotic species in riverine ecosystems, the control of erosion, and input to the rehabilitation of mine sites are now being implemented by several ongoing Catchment Protection projects. A review of grants has been undertaken, and a redesign of grants programs is in progress. Catchment Protection have identified a need to continue to influence leaseholders to fence riparian zones, and in coordination with DLWC, map soil erosion and salinity. An assessment of the capability of lands owned by the SCA in Braidwood will be used to develop a Land Management Plan, which will also be used to illustrate best practice.		
	The Science and Research Section and Hydrology Section are building a compilation of relevant water quality and catchment information. This task is ongoing. Water quality reporting, and other reporting processes are		

Strategic Priority	Status		
	now formalised and operational. This includes the Annual Water Quality Monitoring Report, and the Annual Environmental Report.		
5. Stakeholder consultation and communication	A survey of customers and the community was completed in September 2001. Stakeholder relationships have been initiated. The Catchment Consultative Committees and Reference Panels have been established and are operational. The SCA is continuing to provide support and community education at dams, and is supporting the Phosphorus Action Campaign. The Community Education Strategy has been finalised, and is being implemented. Ongoing activities include: Streamwatch; 'Crystal Clear' school dance performance tour; student enquiry service; and development of a Mobile Education Unit.		
5. Monitoring and Research ¹¹	The Environmental Indicators have been finalised and are being implemented, as are standardised reports on water quality and catchment health. The Water Quality Monitoring Program 2001-2004 has been finalised, and new monitoring contracts have been established. The water quality and catchment information systems and database has been initiated, and the task of gathering information continues. A research management policy and processes have been implemented, and the identification and implementation of appropriate research projects continues.		
6. Bulkwater and catchment infrastruc ture	The Dam Safety routine surveillance and monitoring, and annual inspection programs are in place and operational, as is the Asset Management System. Maintenance processes and procedures have been established, and the current maintenance contracts have been renewed. A review of maintenance programming is currently being undertaken.		
	Operating manuals and incident response plans have been reviewed and upgraded, and the Corporate Incident Management System has been established. System Management Plans for the seven water supply systems have been established, incorporating operations and asset management activities. Training in processes and procedures is substantially complete, and is continuing.		
	The feasibility of options for automation of off-take screens at various storages has been investigated. Capital works management processes have also been established, including identification and assessment of projects, financial evaluation, and oversight of implementation.		
7. Raw water quality	The Bulk Water Supply Agreement, incorporating appropriate bulk water quality criteria, has been renegotiated with Sydney Water. Negotiations are continuing with Shoalhaven City Council and Wingecarribee Shire Council. SCA has participated in the rolling revision of the Australian		

¹¹ The communications and monitoring/research activities form one strategic priority, but two separate actions for planning purposes. See Pg ii, Strategic Priorities Action Plan July 2000.

Strategic Priority	Status
	Drinking Water Guidelines (ADWG).
	The Blue Green Algae Contingency Plan has been implemented. The Blue Green Algae Management Strategy is substantially complete, and will be progressed further during the remainder of 2002. Most initiatives of the Strategy are operational, but need to be adequately documented and coordinated.
	This plan has a 5-year planning horizon and will be reviewed annually. Together with Sydney Water's 5-Year Drinking Water Improvement Plan it provides a seamless approach to managing and enhancing the quality of water from the catchments to the customers' taps.
	The SCA will be developing a Raw Water Quality Risk Management Plan which when developed will replace the Bulk Raw Water Quality Management Plan.

The ongoing actions from the Strategic Priorities, which have been incorporated within the new Business Plan, are summarised below.

- Liaison, negotiation and collaboration with the DLWC to facilitate STP capacity planning, and to sewer currently unsewered villages.
- Liaison and negotiation with EPA to ensure licences are appropriate in the area of operations.
- Application of appropriate and consistent responses to STP development applications.
- Finalisation and implementation of the Regional Environmental Plan.
- Mid-term Review of the Operating Licence
- Ongoing collaboration with Councils and DLWC to ensure adequate land management.
- Assumption of a more significant role in demand management, continuing to influence and encourage through education, and utilising the ongoing relationship with Sydney Water.
- Continued focus of research programs on establishing the links between various factors (natural processes, catchment activities, water harvesting and transport operations) and water quality.
- A review of Asset Management Strategy is underway to ensure that it continues to be appropriate for the management of bulk water supply assets. This is being done as part of a wider review of risk management within the SCA.
- Undertake reviews of best practice in water supply and catchment operations, and make use of initiatives that may arise from this investigation.
- Development of an appropriate Environmental Flow regime, which enhances riverine ecosystems without compromising the security of water supply.
- Continue to participate in the rolling revision of the Australian Drinking Water Guidelines (ADWG).

APPENDIX 2 – FINANCIAL OUTCOMES

The following table summarises the SCA's actual and projected financial outcomes resulting from IPART's 2000 determination.

(\$M of year)	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Opening fixed asset value	647.1	697.1	742.9	746.3	785.6	831.1
less depreciation	(6.2)	(7.6)	(7.8)	(9.0)	(9.5)	(10.1)
plus capital expenditure	37.6	26.3	15.5	23.6	35.1	36.6
less disposals, adjustments ¹²	0.0	6.6	(25.5)	5.0	-	(0.0)
plus indexation ¹³	18.6	20.6	21.3	19.7	20.0	21.1
Closing fixed asset value	697.1	742.9	746.3	785.6	831.1	878.8
Average fixed asset value	672.1	720.0	744.6	766.0	808.4	855.0
Working capital (average) ¹⁴	(5.6)	(9.7)	(12.6)	(13.0)	(15.1)	(16.0)
Net assets	666.5	710.3	732.1	753.0	793.2	838.9
Operating expenditure	45.1	57.8	73.5	75.6	77.3	78.5
Expected revenue	119.8	122.9	126.3	124.5	127.0	129.7
Expected return on assets ¹⁵	68.5	57.5	44.9	40.0	40.2	41.1
Return on net assets (real, pre-tax)	10.3%	8.1%	6.1%	5.3%	5.1%	4.9%

Table 10 –	Financial	Outcomes
		0 0.0000000000

¹² Adjustments are miscellaneous changes in asset accounts.

¹³ Indexation is CPI times opening balance plus CPI/2 times transactions.

¹⁴ Working capital is debtors and prepayments less creditors and accruals.

¹⁵ Expected return on assets is revenue less operating expenditure less depreciation.