(summary review of operations 1999-2000)

HOW WE PERFORMED

BULK WATER SUPPLY

Strategies	Outcomes	Future tasks/issues
Deliver quality bulk water to SCA customers	• Bulk water agreement with SWC established • Customer requirements for supply of quality bulk raw water met • No water quality customer complaints	• Develop customer agreement for customers other than SWC • Develop an integrated management system in line with revised Australian Drinking Water guidelines to ensure maintenance of product quality

ASSET AND INFRASTRUCTURE MANAGEMENT

Strategies	Outcomes	Future tasks/issues
Maintain and improve infrastructure	• 10 year Capital Works Program developed, approved, and commenced • SCA Asset Management Strategy developed, approved and implemented • Standard Operating Procedures (SOPs) being developed for all assets • Achieved full compliance with NSW Dam Safety Committee requirements • Warragamba Auxiliary Spillway project progressing on schedule	• Continue developing SOPs for all assets • Complete Operations and Maintenance manuals for high and significant hazard dams • Spillway project due for completion in 2002

CATCHMENT MANAGEMENT AND PROTECTION

Strategies	Outcomes	Future tasks/issues
Regulate access	• Increased signage and surveillance • Development of revised catchment regulation for special and controlled areas	• Implement revised regulation
Protect catchment	• Land management operations undertaken such as trail maintenance, contaminated sites rehabilitation and erosion control works • Developed community grants program to fund catchment works • SCA funds Catchment Protection Scheme with DLWC • SCA supports Landcare groups including in-kind and sponsorship	• Ongoing on-ground catchment protection activities under $2.7 million Catchment Enhancement and Protection Program • Renegotiate and fund Catchment Protection Scheme with DLWC for further two years • Develop second regulation to cover rest of catchments
Regulate development	• Administration of SEPP 58 taken over by SCA • SCA participating in development of new REP for catchments	• Participate with DUAP in community consultation on draft REP • Implement the REP once finalised

PROTECTING AND ENHANCING WATER QUALITY

Strategies	Outcomes	Future tasks/issues
Improve water quality monitoring	• Increased locations and frequency and hotspot monitoring introduced	
Identify and manage pollution sources in the catchments	• Draft Pollution Source Risk Management Plan being developed • Working with other agencies such as the EPA, DMR, DLWC to reduce pollution	• Plan to be exhibited for public comment in latter half of 2000 and implemented in 2001
Manage incidents	• Emergency response plans developed to deal with spills and water quality incidents • Staff trained in response protocols and inter-agency scenarios successfully completed • SCA public emergency reporting line established	• Undertake audit of SCA's incident preparedness • Ongoing staff training
Influence regulatory framework	• Memoranda of Understanding established with key stakeholders • Reporting program developed to meet compliance requirements	• Complete first audit of our operating licence

RESEARCHING THE CATCHMENTS

Strategies	Outcomes	Future tasks/issues
Conduct baseline audit into catchment health	• SCA project managed first catchment audit to assess catchment health as required by SWCM Act	• Next catchment audit required by end 2001
Lead research into Sydney's hydrological catchments	• Research program is being developed in consultation with independent experts and environmental groups	• Implement research program once consultation phase is complete (expected by end October 2000)
Work cooperatively with research bodies	• Research agreements forged with Cooperative Research Centres (CRCs) for Freshwater Ecology and Water Quality Treatment • SCA working with NSW Fisheries on fish highway study	• SCA is negotiating a research agreement with the University of Western Sydney

COMMUNITY EDUCATION AND INFORMATION

Strategies	Outcomes	Future tasks/issues
Establish communications direction for SCA	• Communications Direction document developed and approved	• Revised SCA Communications Plan due end 2000 • Community research to be undertaken
Establish SCA media profile	• Media policy and procedures developed • Media kit developed and distributed • Regular media releases and statements issued	• Continue issuing media releases to promote SCA messages and activities
Expand on existing education program	• Plans to develop mobile catchment education unit underway • Incorporate increased catchment education into new Warragamba Dam visitor centre	• Complete and launch mobile education unit • Interpretive plan due for development in latter half of 2000; community consultation to be undertaken
Provide information to the community	• Several regional shows and community events attended with displays • Publications being developed to meet student and public enquiries • Brief written to redevelop website to increase education/information value	• Continue public appearances at suitable events • Distribute publications in suitable locations throughout catchments • Tender to redevelop website to be let in latter half of 2000

FORMAT OF DETAILED REVIEW OF OPERATIONS

Guided by its objectives and functions under the SWCM Act, in its first year of operations the SCA began work on a range of policies, as well as its Business Plan and Strategic Priorities. We have opted here to report in detail against the specific functions outlined in the Act. Chapters 1-6 therefore deal with our performance against these functions.

Information has also been provided on community consultation activities, internal corporate structure, human resource activities, and the financial statements for the SCA.

Appendices are included to cover water quality monitoring, reporting requirements for freedom of information, code of conduct, grants to non-government organisations, energy and risk management, use of consultants, guarantees of service, and publications. For comprehensive information about our environment activities, refer to the SCA's Annual Environment Report 1999-2000.

(detailed review of operations)

1 BULK WATER SUPPLY

The Act states that the SCA has the following specific functions:

- To supply water to the Sydney Water Corporation
- To supply water to water supply authorities, prescribed local councils or prescribed county councils
- To supply water to other persons and bodies, but under terms and conditions that prevent the person or body concerned from supplying the water for consumption by others within the State, unless the person or body is authorised to do so by or under an Act.

OVERVIEW

The SCA has a primary function to provide quality bulk water to its customers through effective asset, resource and risk management. By adopting recognised industry best practices, the Authority integrates the planning and operations functions to ensure asset capability and availability, and product quality.

In its inaugural year, the SCA delivered a number of initiatives that have been instrumental in shaping the future and direction of bulk water supply. These include; incident management plans, the asset management strategy, ten year capital works program, and data management systems. Detailed planning and implementation of strategies designed to minimise the impacts of Y2K and ensure uninterrupted product delivery through the Olympic period were also successfully undertaken. The results of some of the SCA's bulk water supply activities are highlighted below.

1.1 QUANTITY OF WATER SUPPLIED TO SCA CUSTOMERS

A total of 606,525.5 megalitres (ML) of water was supplied from various storages to Sydney Water Corporation water filtration plants and to privately owned plants that are contracted to Sydney Water, to Shoalhaven City Council, Wingecarribee Shire Council and small customers drawing water directly from storages, pipelines and the Upper Canal. Of the total, 99.4% was supplied to Sydney Water Corporation.

TABLE 1: WATER SUPPLIED TO SCA CUSTOMERS

Customer	Bulk water supplied ML
Sydney Water Corporation (SWC)	602769
Wingecarribee Shire Council	3384
Shoalhaven City Council	71
National Parks & Wildlife Service (NPWS) – Fitzroy Falls Visitor Centre	0.5
Direct Users – Upper Canal	212
Direct Users – Warragamba Pipeline	42
Direct Users – storages	25
Cataract Scout Park	22

TABLE 2: WATER CHARGES TO SYDNEY WATER CORPORATION

Bulk water charge to SWC	
Quantity supplied ML	602769
Fixed charge ($4.8M/mth)	$57,600,000
Variable charge ($104/ML)	$62,688,045
Water quality rebate*	$(3,200,000)
Net income	**$117,088,045**

* Water quality rebates were made to Sydney Water Corporation as a result of minor departures from the specifications of the Bulk Water Agreement. The total rebate for the year was capped at $3.2M.

Quantity supplied to Sydney Water Corporation

The charts below show the quantities supplied to SWC during each cost period.

FIGURE 1: TOTAL BULK WATER SUPPLIED TO SWC

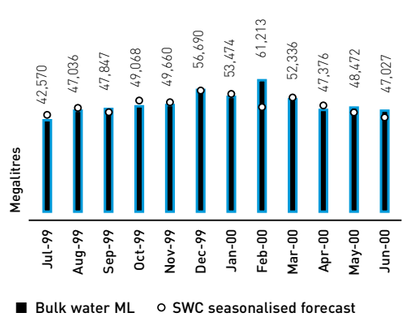
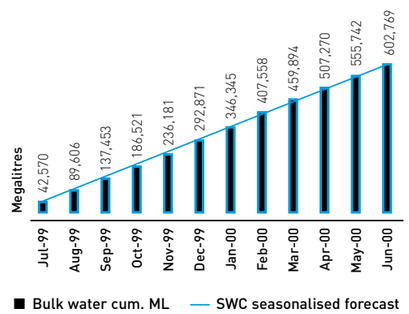


FIGURE 2: CUMULATIVE TOTAL BULK WATER SUPPLIED TO SWC



1.2 RAW WATER QUALITY

Unfiltered and raw water was supplied in bulk to water filtration plants for treatment. A small quantity of unfiltered water was supplied directly to a number of customers along the Upper Canal and the Warragamba Pipelines. Bulk water supplied to Prospect Water Filtration Plant was disinfected by dosing with chlorine in the Upper Canal at Broughtons Pass and in the Warragamba Pipelines at Middle Creek near Warragamba.

Water supplied to each SWC water filtration plant had to meet water quality parameters specified in the Bulk Water Supply Agreement.

Table 11 in Appendix 1 shows the quality of water supplied to each water filtration plant. In the case of SWC plants, conformance to the parameters specified in the Bulk Water Supply Agreement is also shown.

Australian Water Technologies (AWT) Environment Science and Technology (ES&T) continued to monitor water quality in the reservoirs that provide Sydney's water supply for the SCA.

Blue-green algae concentrations exceeded guideline levels in Fitzroy Falls, Wingecarribee and Prospect Reservoirs earlier in the season, and for longer than in previous years. The dominant bacteria in the blooms were tiny, non-toxic species. However, the cell numbers exceeded the Metropolitan South Coast Regional Algal Coordinating Committee (MSCRACC) guidelines for recreational use. The SCA supported a Department of Land and Water Conservation (DLWC) and AWT submission to the State Algal Coordinating Committee (SACC), to revise the guidelines to account for cell size and toxin content. This submission is being reviewed at a national level. If accepted, the changes will allow for better management of situations where the presence of blue-green algae poses little risk to recreational users.

In 1999 a new method for measuring dissolved oxygen was trialed in Lake Nepean. This trial was very successful. It can extend the capability of the real time water quality monitoring network, and has applications for managing water quality in the storages.

A new software program called RESMAN was tested and fine tuned. The program was used to obtain real-time temperature profiles in the lakes. This data was used to destratify the stored water and locate outlet screens to ensure the best quality water is drawn off for supply.

Figures 7 and 8 in Appendix 1 illustrate the types of data available from the RESMAN program. As water temperature is a good indicator of water quality, SCA staff are able to use the data in their day-to-day management of bulk water supply.

Supply to Wingecarribee and Shoalhaven City Councils

The Shoalhaven system storages experienced another blue-green algae bloom during summer and the levels remained elevated for the rest of the year. Fitzroy Falls Reservoir appeared to be most affected.

Staff worked closely with Shoalhaven City Council and Wingecarribee Shire Council to manage the blooms. Water quality data was communicated and meetings were held regularly with the two councils.

Shoalhaven City Council's Kangaroo Valley Water Filtration Plant is capable of handling algae cells and microcystin (toxins) while Wingecarribee Council successfully commissioned a powder activated carbon process to their treatment plant in case toxins were detected in the Wingecarribee Reservoir raw water supply.

After the collapse of Wingecarribee Swamp in 1998, a peat barrier was successfully installed in Wingecarribee Reservoir and no further movement of peat has been observed.

1.3 RAINFALL AND STORAGE BEHAVIOUR

Overall, the water supply catchments received more than the long-term median rainfall during the year. As a result there was a net positive change in storage levels over the year. Woronora, Nepean and Tallowa Dams spilled for varying periods.

There were no transfers of water during the year. However, the opportunity was taken to 'top up' Avon by providing water from Nepean Dam.

The tables and figures below show the rainfall received and the movement in storage levels.

THE YEAR AHEAD

Continued implementation of the Asset Management Strategy and the Bulk Water Division's Operating Strategy will place the SCA in a good position to deliver on its obligations and commitments. Continued strengthening of already good relationships with customers, stakeholders, and regulators is anticipated.

Commencement of the development of an integrated management system in line with the revised Australian Drinking Water Guidelines will ensure the maintenance of product quality, environmental, health and safety aspects of the SCA's operation are addressed in a continuous improvement framework.

Investigations and research into water quality and asset capability issues will continue as a major focus in order to gain customer confidence in the SCA's ability to deliver an effective service and quality product which meets their expectations.

FIGURE 3: RAINFALL

Catchment rainfall 1999/2000

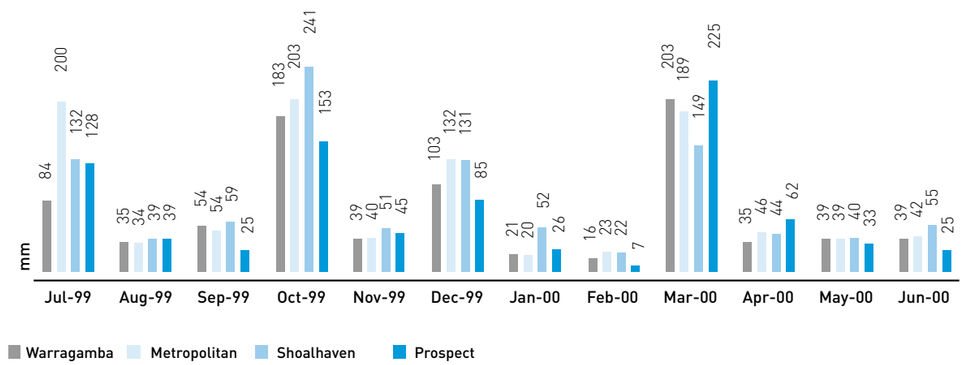
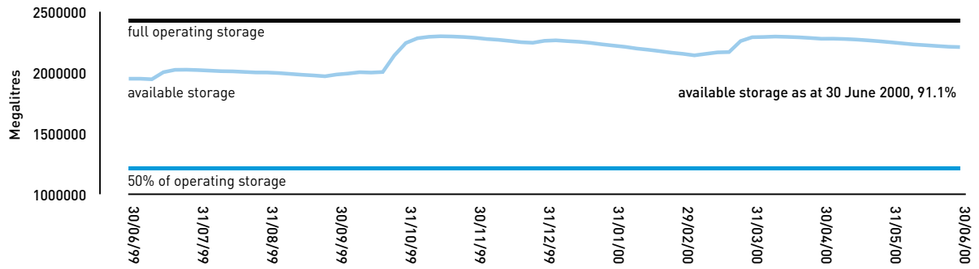


TABLE 3: NET ANNUAL CHANGE IN STORAGES

	Full operating storage (ML)	Storage level (m)	Available storage (ML)	Available storage (%)	Net annual change (m)	Net annual change (ML)
Cataract	94,300	-3.14	69,940	74.2	-0.48	-3,430
Cordeaux	93,640	-2.51	75,510	80.6	1.15	7,350
Avon	146,700	-3.43	112,460	76.7	-0.10	-940
Nepean	40,810	-0.41	39,500	96.8	4.41	13,130
Woronora	71,790	-1.01	68,100	94.9	1.36	4,740
Warragamba	1,886,000	-1.68	1,762,370	93.4	3.46	240,000
Prospect	8,870	+0.02	8,870	100.0	-0.03	0
Wingecarribee	33,500	-1.20	26,360	78.7	0.02	170
Fitzroy Falls	10,000	-0.56	7,150	71.5	-0.14	-740
Tallowa	36,000	+0.06	36,000	100.0	0.04	0
Blue Mountains	3,640		3,380	92.9		-70
Total	**2,425,250**		**2,209,640**	**91.1**		**260,210**

FIGURE 4: MOVEMENT IN AVAILABLE STORAGE

Movement in available water storage in total system



2) ASSET AND INFRASTRUCTURE MANAGEMENT

The Act states that the SCA must 'manage and protect the catchment infrastructure works vested in or under the control of the Authority'.

OVERVIEW

The SCA was created with the transfer of all the catchment areas, stored waters, dams and associated structures, raw water transport conduits, land, buildings, working plant and equipment, associated with the supply of bulk water. These items were previously owned by the Sydney Water Corporation.

The asset base is extensive and critical to the delivery of a reliable supply of quality bulk water to the SCA's customers and their consumers, who number in excess of four million people.

In delivering this service, the SCA has the following four management challenges:

- to minimise the cost of acquiring physical assets
- to minimise the cost of maintaining the assets
- to ensure the assets continue to perform satisfactorily
- to meet service delivery outcomes.

How well these four challenges are met will profoundly influence the overall effectiveness of the SCA in making use of its physical assets. As a result, the formulation and execution of a suitable physical asset management strategy is a top priority.

The SCA's Asset Management Strategy was developed within the context of a total asset management framework, based on the NSW Government's Total Asset Management Guidelines Manual.

The strategy is designed to ensure the assets are operated, maintained, renewed, replaced or created in an effective and efficient manner to achieve service delivery outcomes.

2.1 SCA ASSET MANAGEMENT STRATEGY

The SCA's Asset Management Strategy was developed by the Bulk Water Division and approved by the Board at its meeting in June 2000. The strategy takes into account environmental impact reduction initiatives and heritage issues. Key areas of progress in the SCA Asset Management Strategy have been:

- Completing System Management Plans for the highest priority systems, namely Warragamba Pipeline and the Upper Canal. Work has progressed well on System Management Plans for the five remaining systems: Warragamba Dam, Prospect Dam, Shoalhaven System, Metropolitan Dams and Blue Mountains Dams, for a December 2000 completion. Risk assessment workshops to identify gaps between existing and required capacities/capabilities were completed for all systems. These plans were used to prioritise projects in these systems over the coming year.
- Developing and progressing programs for the completion of Standard Operating Procedures (SOPs), a major component of Bulk Water's quality management system. Identification and rationalising of SOPs was undertaken for all assets. Production Officers worked on developing SOPs for critical operations.
- The operations and maintenance manuals for Warragamba Dam were finalised and issued. Draft manuals for Tallowa, Cataract, Cordeaux, Avon and Nepean Dams were prepared and reviewed. Work on the preparation of draft manuals for Bendeela Pondage, Cascade Dams, Fitzroy Falls Reservoir, Wingecarribee Reservoir, Kangaroo Pipeline control structure, Glenquarry Cut and Prospect Reservoir progressed well.
- The programmed annual and five-yearly dam safety inspections found the storage dams to be maintained in satisfactory condition, in accordance with the Australian National Committee on Large Dams Guidelines and NSW Dams Safety Committee requirements for the management of large dams.
- Major asset maintenance activities to ensure asset reliability were undertaken on the Warragamba Pipeline, Warragamba Dam Drum Gate, Cataract Tunnel, Nepean Tunnel, Upper Canal and Broughtons Pass Dosing Plant.

Maintenance

Staff participated in the first phase of a maintenance improvement plan, which resulted in a number of positive outcomes for the SCA and its mechanical and electrical maintenance contractor, ABB.

These outcomes achieved improved efficiencies and a lowering of costs. Attention was also paid to improving equipment reliability. A summary of the outcomes follows:

- Preventative maintenance work for isolated areas was streamlined
- Peaks and troughs in the preventative maintenance workload were levelled out across the year
- Recommendations were made to eliminate or reduce significant or recurring problems. A number of the recommendations were implemented immediately
- Preventative maintenance frequencies and duration were optimised
- Progress was made in auditing the accuracy of the SCA's Asset Register, with redundant items deleted and missing items added.

2.2 CAPITAL WORKS

The SCA Board approved a ten-year coordinated capital works program in February 2000, encompassing 54 projects at a total cost of $268.13 million. An annual expenditure of around $12 million (excluding the Warragamba Auxiliary Spillway) is anticipated.

The program mostly involves renewals and upgrades of existing water supply infrastructure, focussing on dam safety, asset reliability, environmental and OHS&R improvements and water quality enhancement projects. Significant upgrading works have been proceeding on the Warragamba Dam Auxiliary Spillway, the Upper Canal and Warragamba Pipelines. Capital funding has been used to acquire parcels of catchment land, as well as to establish office accommodation at Penrith.

The Warragamba Dam Auxiliary Spillway is by far the largest of the capital projects, with an overall estimated cost of $150 million. At the time of writing, the excavation of the new chute spillway was almost complete and concrete lining had commenced. Since the start of the project, $56.67 million had been spent to the end of June 2000. The major civil engineering construction is scheduled for completion by December 2001, with supplementary contracts extending to early 2004.

Significant work has been undertaken to develop processes for managing the asset program and for the asset creation process in general. Project management expertise and computer software is being mobilised to provide good control.

The following table sets out the capital works expenditure for 1999-2000.

TABLE 4: CAPITAL WORKS EXPENDITURE FOR 1999-2000

Project	1999-2000 Expenditure ($M)
Warragamba Dam, spillway upgrade	34.840
Warragamba Pipelines, access platforms and ladders	0.024
Metropolitan Dams, upgrade of roads	0.020
Metropolitan Dams, upgrade of effluent disposal systems	0.025
Broughtons Pass, replacement of stopboards	0.081
Upper Canal, refurbishment of channel	0.411
Upper Canal, refurbishment of aqueducts, Stage 1	0.178
Upper Canal, biological monitoring station dechlorination	0.019
Prospect Reservoir, upgrade of scours	0.014
Bendeela Camping Ground, alternate water supply	0.005
Burrawang Pumping Station, replacement of DC batteries	0.080
Land acquisition for catchment areas	0.587
Bulk water, on-line water quality monitoring systems	0.038
Upgrade hydrographic and water quality monitoring network	0.065
Office accommodation at Penrith	0.937
Total	**37.324**

2.3 HERITAGE

The SCA is responsible for managing a diverse range of heritage items, including dams and associated infrastructure, weirs, farm buildings, mining infrastructure, walking tracks and bridges. Such diversity of items is due to the organisation's long history of water supply service and the purchase of former pastoral and mining lands within the water supply catchments.

In addition, the SCA's land holdings in the Special Areas and at Welcome Reef contain numerous sites and places of significance to Aboriginal communities. Known Aboriginal archaeological sites are recorded in the Aboriginal Sites Register, which is administered by the National Parks and Wildlife Service (NPWS).

To assist in the management of this diverse heritage portfolio, the SCA maintains a Heritage and Conservation Register (currently in draft stage). Thirty-eight heritage items are listed on the draft Heritage and Conservation Register, 21 of which are listed on the State Heritage Register. These include dams and associated infrastructure, Prospect Reservoir, the Upper Canal, Coxs River walking track and homesteads in the Welcome Reef area. See Table 5 for a full listing.

In its first year of operation the SCA has undertaken a number of initiatives to manage its cultural heritage and has established a management framework for future works. In summary:

- ***Establishment of a management framework.*** The SCA established a management framework for cultural heritage which involved forming the SCA Cultural Heritage Work Team and the Joint Management Agreement Cultural Heritage Working Group. The Cultural Heritage Work Team undertakes overall coordination of cultural heritage matters within the SCA. The Joint Management Agreement Cultural Heritage Working Group focuses on specific cultural heritage issues related to the Special Areas. This Working Group comprises SCA and NPWS officers.
- ***Upgrade of Draft Heritage and Conservation Register***. The SCA, in conjunction with Sydney Water, commissioned consultants to help upgrade and split the draft Sydney Water Heritage and Conservation Register into two parts, one to cover each agency. This project was undertaken to meet the requirements of the NSW Heritage Act and to help SCA staff responsible for capital and maintenance works on heritage assets.
- ***Preparation of Conservation Management Plans for Aboriginal sites.*** The Conservation Management Plans will guide planned repair works and protection of the sites.
- ***Preparation of a Conservation Management Plan for "Joorilands".*** "Joorilands" is a former sheep station located in the Warragamba Special Area. While the Conservation Management Plan was being prepared, emergency works were undertaken to prevent further irreversible damage to the existing structures. This project, undertaken jointly by the SCA and NPWS, will assist with its future management.
- ***Oral history project canvassing views from Illawarra and Thurawal Local Aboriginal Land Councils on the management of Special Areas.*** This project was conducted jointly between SCA and NPWS to help the joint managers of the Special Areas address the needs of these groups.
- ***Preparation of a Conservation Management Plan and structural assessment of the Yerranderie Police Station, Courthouse and Church.*** Yerranderie is a former mining outpost located in the Warragamba Special Area. The SCA-owned courthouse, police station and church have high heritage value. The Conservation Management Plan and structural assessment will guide the planning of future restoration works.

As the *Draft Heritage and Conservation Register* is being upgraded, no items have been formally added or removed from the draft register at this stage.

TABLE 5: SCA'S HERITAGE ASSETS

Heritage item	Listing on draft Heritage and Conservation Register	Listing on the State Heritage Register
Arnprior Homestead	•	•
Avon Dam	•	•
Cataract Dam	•	•
Charcoal pit, Warragamba catchment	•	
Cobbity Village Weir	•	
Cordeaux Dam	•	•
Coxs River Track, Warragamba catchment	•	•
Glen D'Or Homestead	•	•
Grave, Warragamba catchment	•	
Joorilands Homestead	•	
Khama Lea Homestead	•	•
La Vista Homestead	•	•
Mayfield Homestead	•	•
Medlow Bath Reservoir (Dam)	•	•
Megarrity's Bridge	•	•
Mt Hunter Rivulet Weir	•	
Nepean Dam (wall and valve house)	•	•
Ooranook Homestead	•	•
Pheasants Nest Weir	•	
Prospect Reservoir and surrounding area	•	•
• Prospect Reservoir Valve House	•	•
Stone house, Warragamba catchment	•	
Upper Canal System	•	•
Virginia Homestead	•	•
Warragamba Dam	•	
• Crest gantry crane	•	
• Crest gates	•	
• Dam outlets	•	
• 18 ton Cableway	•	
• Haviland Park	•	•
• Hydro-electric power station	•	
• Main dam wall	•	
• Suspension Bridge	•	
• Valve House	•	
Warragamba Emergency Scheme	•	•
Warragamba Weir	•	
Wingecarribee Swamp		•
Woronora Dam	•	•

3) CATCHMENT MANAGEMENT AND PROTECTION

THE YEAR AHEAD

Implementation of the Asset Management Strategy will be ongoing and the coming year will see the completion of various plans of management for catchment lands, property, office accommodation and, importantly, infrastructure assets. Development, testing and application of Standard Operating Procedures will form a critical part of the SCA's integrated management system and ensure consistency of operation and continuous improvement.

The SCA's commitments to the NSW Dams Safety Committee will be realised, with the completion of Dam Safety Emergency Plans and Operations and Maintenance Manuals for high and significant hazard dams. The SCA is progressing with five yearly Surveillance Reports for all of its 21 prescribed dams, and has gained Committee approval for its five yearly Surveillance Reports for Nepean Dam and Broughtons Pass Weir. Major periodical maintenance regimes are to be developed for all assets and a review of the current contract for mechanical and electrical maintenance will be undertaken. The Capital Works Program approved for the year, mainly involving upgrades to existing infrastructure, will need to be managed closely to ensure successful completion.

The Asset Management Strategy addresses the lifecycle of assets and will undergo annual review to ensure it remains contemporary and addresses the impacts of a changing environment. Ultimately, best practice asset management which links finance, physical assets, technology and people performance, will be a cultural feature of the SCA operating strategy.

The Act states that the SCA must 'manage and protect the catchment areas'.

OVERVIEW

The SCA has a vital role in protecting and enhancing the catchments and regulating activities to promote high quality water. To achieve this the SCA has established a Catchment Protection Division which is specifically responsible for:

- regulating activities affecting water quality
- preserving and managing SCA-owned land
- monitoring and research into catchment health, and
- providing leadership in catchment management.

In its first year of operation, the SCA has worked with other government agencies and local councils and has delivered a number of initiatives to help manage and protect the catchments. Some of these initiatives, coupled with ongoing management activities, are highlighted below:

3.1 DEVELOPMENT CONTROL AND IMPLEMENTATION OF SEPP 58

The administration of SEPP 58 was transferred to the SCA on 31 March 2000. In its first year of operations, 650 applications were received and reviewed by the Authority. The majority of these applications were for unsewered residential development. Wherever possible, the SCA has ensured that appropriate controls are incorporated into developments to protect water quality. Catchment Protection Officers have also undertaken compliance monitoring to support the SCA's concurrence role under SEPP 58.

3.2 CATCHMENT OPERATIONS

The land owned by the SCA, within the Special Areas and elsewhere in the water supply catchment, is managed by two geographically based teams in the north-west at Warragamba and in the south-east at Cordeaux. They are responsible for ensuring the SCA complies with its legislative responsibilities as a landholder and promotes "best management" techniques. Land management activities are targeted towards soil conservation, fire management, pest and weed management, access control, ecological investigations and management, cultural heritage management and utilities management.

3.3 EXTENSION ACTIVITIES

The SCA has a vital outreach program across the 16,000 square kilometre water supply catchments. To help encourage improvements in land management techniques and industrial practices by the catchment community, Catchment Protection Officers have initiated links with Landcare and other community groups, as well as local councils, industries and individual landholders. They have been highly visible at field days and local shows and have been active in distributing catchment information.

3.4 CATCHMENT ENHANCEMENT AND PROTECTION PROGRAM

During the year the SCA committed $2.7 million to on-ground catchment protection activities. The funds will be spent on 33 projects which meet strategic priorities set by the SCA Board as a result of the findings of the first catchment audit.

The projects fall into the following broad categories:

- controlling sewerage effluent discharge
- managing other discharging activities
- improving urban stormwater quality
- enhancing riverine ecosystems
- outreach, research and monitoring
- integrating SCA assistance schemes.

The projects will be delivered through contracts, joint project agreements with other organisations and via in-house works programs. Most of the projects will be completed by the end of 2001.

3.5 CATCHMENT PROTECTION AND IMPROVEMENT GRANTS PROGRAM

Recognising the important contribution to be made by people living and working within the catchments, the SCA established an annual Catchment Protection and Improvement Grants Program. Grants of up to $8 000 are provided to support community projects which are consistent with the SCA's objectives of improving catchment health.

In the past year the SCA received 42 applications for funding, and after assessing these against its objectives, awarded funds to 26 applicants to a total value of $178,000. The projects cover a broad range of catchment improvement initiatives including weed control and bush regeneration, clearing rubbish, fencing to prevent stock access to waterways, rehabilitation and restoration of riverbanks, and revegetation to prevent erosion and sediment entering waterways (see Appendix 4 for a full list of projects and recipients).

3.6 CATCHMENT PROTECTION SCHEME

The SCA continues to support the Catchment Protection Scheme, which provides funding to landholders for catchment improvement works and extension activities. The scheme is a joint program between the Department of Land and Water Conservation (DLWC), SCA and landholders. It is managed and administered by the DLWC. In its first year of operations, the SCA has contributed $620,000 to the scheme.

3.7 ENVIRONMENTAL INDICATORS

The Authority released a draft list of Environmental Indicators for public exhibition on 20 April 2000. The indicators will measure changes in the state of the catchments and the environmental impacts of the Authority's operations and activities. The SCA must commence monitoring of the indicators and compiling data on them from 1 March 2001. Indicators of Ecologically Sustainable Development (ESD) are also being developed by the SCA. Once the Board has approved these indicators they will be reported in the SCA's Annual Environment Report for 2001.

THE YEAR AHEAD

The SCA has made significant progress in achieving its catchment protection responsibilities over the last year. In the coming year the addition of about 20 new staff and the establishment of three new regional offices, in Goulburn, Moss Vale and the Blue Mountains, will enable the SCA to work more effectively with local communities on a range of important catchment protection and improvement initiatives.

The challenges facing the SCA over the coming twelve months, include:

Regional Environment Plan (REP)

The Department of Urban Affairs and Planning is in the process of preparing a draft REP for public exhibition. It will be implemented by the SCA. The REP will impose stricter regulations on both existing and new developments in the catchments to protect drinking water quality. It places a range of new obligations upon the SCA. As a consequence, the Authority is actively developing the strategies and plans that will enable it to meet those obligations.

Sydney Water Catchment Management (General) Regulation 2000

The SCA has received the Minister's approval to exercise powers under this regulation in the Special Areas and controlled areas of the catchments. The regulation controls public access, conduct and activities in those areas. The regulation will enable SCA officers to issue penalty notices.

Sydney Water Catchment Management (Environment Protection) Regulation 2000

The SCA is working closely with the EPA to develop a new regulation which will cover all of the SCA's area of operations. The proposed regulation would enable the SCA to exercise certain powers under the Protection of the Environment Operations Act 1997 in relation to pollution sources impacting on water quality in catchment areas. The SCA's regulation will not apply to premises and activities covered by an environment protection licence from the EPA.

Geographical Information System (GIS)

In order to use GIS technology to its potential, centralisation of the SCA's GIS data and an upgrade of its GIS infrastructure is required. The SCA is committed to upgrading its current GIS system and expects to become a lead organisation in the coordination of catchment oriented data.

4 PROTECTING AND ENHANCING WATER QUALITY

The Act states that the SCA must 'protect and enhance the quality of water controlled by the Authority'.

OVERVIEW

The SCA protects and enhances water quality in the catchments through a variety of activities and programs. An effective water quality monitoring network is a vital component in this multi-faceted approach.

When the Sydney Catchment Authority was created in July 1999, the complex, multi-purpose water quality monitoring network maintained by Sydney Water Corporation (SWC) was divided between the SWC and the SCA.

The monitoring accords reached between the SCA and SWC have functioned well in the SCA's first 12 months, with the transfer of information between the two organisations proceeding effectively and no major problems occurring.

4.1 WATER QUALITY MONITORING

The SCA operates and maintains an extensive water quality and quantity monitoring network.

Information gained from monitoring is used for:

- long-term assessment of dam inflows
- flood studies
- planning for storage and transfer
- drought evaluation
- providing information to the State Emergency Services (SES) during floods under the NSW Flood Plan
- compliance with riparian and environmental flow requirements
- compliance with EPA licences
- selection of 'best water' for delivery to SWC and other customers
- assessment of sediment loads entering reservoirs
- assessment of contaminant loads entering reservoirs
- modelling for water supply strategic planning
- assessment of impacts on downstream communities
- long-term viability of storages
- evaluation of long-term land use and other changes
- long-term trends in water quality
- environmental indicators reporting
- research and development.

The SCA operates 88 water level recorders and 155 rainfall stations in the catchments, storages, and downstream of the dams. They collect information on water levels and rainfall on a continual basis.

Information on the chemical and biological quality of the water in catchment streams is collected through monthly routine sampling during normal flow conditions and by automatic samplers during freshes (higher inflow periods) and floods. There are 26 sites in the catchments that are subject to this sampling regime. The variables monitored include temperature, conductivity, dissolved oxygen, pH, turbidity, suspended solids, nutrients, metals, chlorophyll and coliforms. Table 12 in Appendix 1 shows water quality data for 12 of these sites.

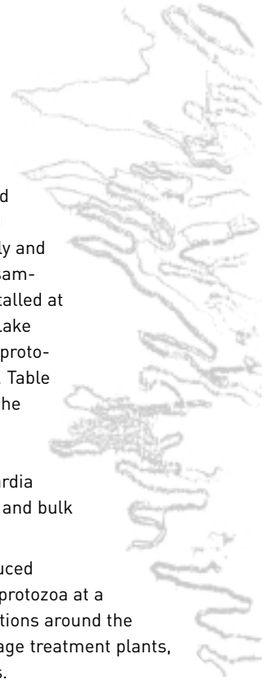
Information on the quality of the water in the storage dams is collected monthly at 12 sites and on a fortnightly basis at seven locations. In addition, during the summer, information on water quality is collected on a weekly basis at a number of locations that have the potential to suffer from algal bloom formation. The variables measured in the lakes are similar to those measured in the catchment, with the addition of full algae identification and counting. Median water quality parameters are shown in Table 13, Appendix 1.

Some water quality measurement in the rivers downstream of the dams is also undertaken for environmental flow planning. Sydney Water Corporation also uses the information for waste water strategic planning.

4.2 SPECIAL PROGRAMS

In the wake of the water contamination incidents in 1998, the SCA has supplemented routine monitoring with special programs to deal with protozoa and other poor water quality incidents.

Protozoa (Cryptosporidium and Giardia) are now monitored daily at Warragamba Dam and Broughtons Pass Weir. They are also monitored twice-weekly in Prospect Reservoir, weekly in Werriberri Creek (the nearest inflow



to Warragamba Dam) and Wingecarribee Dam, and monthly in the Wollondilly and Coxs Rivers. Automatic samplers have also been installed at seven locations around Lake Burragorang to monitor protozoa during storm events. Table 10 in Appendix 1 shows the number of samples and test results for Cryptosporidium and Giardia in the SCA's major lakes and bulk water supply system.

The SCA has also introduced 'hotspot' monitoring for protozoa at a number of sensitive locations around the catchment, such as sewage treatment plants, sale yards, and piggeries.

A suitably qualified independent laboratory, Australian Water Technologies (AWT), carries out additional protozoa testing to complement the SCA's regime. In addition, a percentage of all samples, as well as all samples which test positive, are checked by another independent laboratory, the Australian Water Quality Centre in South Australia.

The SCA also monitors for pesticides and blue-green algae, and has developed contingency and emergency response plans to deal with incidents such as suspected or actual pollution, major floods, or any water quality problems.

4.3 ENVIRONMENTAL FLOW TRIALS

The analysis of data collected during the experimental environmental flows on the Hawkesbury-Nepean River during 1998-99 is nearing completion. The results of the flows program will be considered by the recently announced Hawkesbury-Nepean River Management Forum, which will be responsible for developing flow rules for the Hawkesbury-Nepean River. A performance-monitoring program for environmental flows for the Woronora River is currently being developed with assistance from the Cooperative Research Centre for Freshwater Ecology.

Between December 1999 and June 2000, the SCA released over 1,000 million litres of water into the Cataract River, downstream of its weir at Broughtons Pass. This water was provided to allow the Department of Land and Water Conservation to monitor the effectiveness of environmental protection works installed in the river. At the same time the water contributed to general flows in the river and maintaining stream quality.

4.4 RISK MANAGEMENT

The SCA has prepared a Draft Pollution Source Risk Management Plan to help it identify and assess pollution sources in the catchment area, and to evaluate the risks to drinking water quality and catchment health. The plan will be exhibited for public comment in the latter half of 2000, and is due to be finalised by January 2001.

It will:

- provide a risk-based framework for prioritising and undertaking on-ground actions to address identified pollution sources
- encompass a five year time-frame and will be revised in response to the findings of the next catchment audit, to be completed by December 2001, and
- provide valuable information that will assist with the regional environment plan currently being prepared for the drinking water catchments.

5) RESEARCHING THE CATCHMENTS

THE YEAR AHEAD

The SCA's new Operating Licence requires monitoring of specified pesticides, chemicals and radiological compounds in the inflows into the water filtration plants of all customers. Preliminary discussions have been held with NSW Health, and a program for monitoring these compounds is currently being developed. This addition to the current monitoring program will be implemented in 2000/2001.

The SCA's water management licence from the Department of Land and Water Conservation is currently being drafted and is due to be complete by December 2000.

Other water quality monitoring issues currently in progress or under discussion include:

- monitoring of pesticides and herbicides in the major inflows into Lakes Burragorang and Nepean using lipid sacs
- expansion of on-line monitoring systems to include dissolved oxygen in the lakes
- introduction of on-line monitoring for nutrients in the river systems
- expansion of telemetry systems to access remote stations within the Warragamba catchment
- increased monitoring at specific locations for a greater range of compounds.

It is anticipated that water quality information collected by the SCA will continue to be of interest to the community, local councils, students, consultants, environment agencies and other stakeholders. For more detail refer to our separate water quality 'Monitoring Program Report'.

The Act states that the SCA must 'undertake research on the catchments generally, and in particular on the health of the Authority's catchment areas'.

OVERVIEW

The SCA is the lead agency for research on the drinking water catchments of the Sydney region. Research is used to understand how activities in the catchment affect water quality and the ecological integrity of the catchments themselves.

A research strategy has been developed that includes a range of projects. Some will investigate the origins of factors impacting on water quality, such as the various land uses in the catchments. Others will seek to improve the SCA's understanding of the ecological processes taking place on the land and water of this region to ensure appropriate management.

5.1 FIRST CATCHMENT AUDIT

One of the SCA's first tasks, and the first significant research task, was to commission an independent review of the health of the catchments for the Minister for the Environment.

The audit was carried out in 1999 by Dr John Williams, Deputy Chief of CSIRO Land and Water. The Minister publicly released the audit report on 4 January 2000. It identified a number of issues to do with the current state of the catchment and has helped the SCA to develop plans and programs to further improve catchment health.

Overall, the audit said the catchments are in 'moderately good' condition, but that existing land uses in the catchments have affected water quality and catchment health. Those land uses include housing, urban centres, agriculture, mining, extractive industry, roads, rail lines, and gas and power lines. The significant effects of those land uses include sewage and stormwater pollution.

5.2 RESEARCH AGREEMENTS AND PROJECTS UNDERWAY

The SCA has a formal research agreement with the Cooperative Research Centre (CRC) for Freshwater Ecology and is negotiating an agreement with the CRC for Water Quality and Treatment. The SCA is also in the process of negotiating a research agreement with the University of Western Sydney.

The SCA is currently funding two research projects at the University of NSW: one looks at the risks to water quality posed by on-site waste management systems, the other looks at the way pathogens are transported through the catchments. These are three-year research projects and will be due for completion in 2003.

The SCA is also working with NSW Fisheries to evaluate the use of high level fishways at Tallowa Dam. The damming of rivers to create water supply reservoirs is important to ensure a reliable water supply for our communities. Unfortunately, the presence of these dams may interfere with the natural migratory patterns of fish that travel up and down the streams. Fishways can be built to allow fish to move safely past the dam.

Research work is also being carried out on Wingecarribee Swamp. After heavy rainfall in August 1998 the swamp experienced a massive collapse sending tonnes of peat into Wingecarribee Reservoir. Wingecarribee is one of Australia's largest peat swamps and provides habitat for certain species classified as endangered or vulnerable. It has significant environmental value. While rehabilitation of some aspects of it may be achievable, restoring the swamp to its former state is not possible.

Research into the swamp is necessary to fill gaps in knowledge about how it works and what activities could be carried out to aid its rehabilitation. Information is being gathered in a variety of ways, including aerial photography, photogrammetric mapping, sediment and core log analysis, water quality and water table monitoring, and expert consultation. These measures will help to build a database of information to improve understanding of the swamp and support possible future stabilisation or rehabilitation works.

A research component will be contained in the revised Plan of Management for the Swamp and the Special Area, which is to be exhibited in the coming year.

THE YEAR AHEAD

The SCA is developing a research program to help better manage water quality and the environment. The program is being developed in consultation with independent experts and environmental groups. Projects will begin after this consultation process is complete in October 2000. It is likely that projects will be developed to further our understanding of issues such as:

- the impacts of recreation on ecology and water quality
- the effect of environmental flow regimes on freshwater ecology, and
- the appropriate indicators for ecological assessment.

6 COMMUNITY EDUCATION AND INFORMATION

The Act states that the SCA must 'undertake an educative role in the community'.

OVERVIEW

The challenge for the Sydney Catchment Authority is not just to build on the effectiveness of its existing education services at Warragamba Dam, but also to find new ways to work in partnership with other education providers in the catchments.

The SCA recognises that many excellent environmental education initiatives are already in place in the catchments, and that there is a need to support and foster them.

The underlying aim of the SCA's education activity, whether solo or in partnership, is to increase understanding and awareness of the importance of catchment health in maintaining water quality. From this central aim, many other avenues can be explored such as biodiversity, heritage issues, ecological values, and sustainable development.

Through education, it's hoped people will gain greater respect and appreciation for the vital role healthy catchments play in delivering their drinking water, and also a clear understanding of the SCA's role in the managed water cycle.

The SCA is also committed to fostering student knowledge and understanding of the catchments, and offers excellent service to students seeking information and research material for assignments at both the secondary and tertiary level.

6.1 COMMUNITY RELATIONS

In its first year, the SCA Community Relations Program has focused on raising public awareness about the SCA, and giving catchment communities, in particular, a chance to meet SCA staff, ask questions, and find out how they can work with the SCA.

Events and other activities included:

- displays at six rural agricultural shows: Bathurst, Lithgow, Robertson, Moss Vale, Goulburn and Thirlmere, between March and June 2000
- sponsoring and attending World Environment Week displays including SCA 'Catchment Tours' at Warragamba throughout the week
- presenting information on catchment issues to students studying environmental subjects at TAFE and University
- sponsoring the 2000 Hawkesbury Nepean Catchment Management Trust Local Government Environment Awards
- official opening of the Warragamba Dam Auxiliary Spillway Viewing Platform by the Minister for the Environment, the Hon Robert Debus.

SCA publications

The SCA is developing a suite of publications to satisfy the need for information in the community, especially from students. Publications in production include a number of corporate brochures and a series of brochures on the SCA dams and catchments.

The Authority will soon publish an anniversary brochure *Protecting Sydney's Drinking Water Catchments*. This gives the community a snapshot of SCA initiatives and whole-of-government activities to improve the health of the catchments.

The SCA is also working with the CSIRO's Helix Magazine to produce a brochure about the catchments, suitable for younger audiences, and a sponsored article in the October edition of the magazine to coincide with National Water Week, 2000.

SCA Website

The SCA has set up a website to provide basic information and a point of contact for the community. In mid 2000, a brief was developed to redesign the website in order to include more information and to make it easier to navigate. Fresh new content will be developed to reflect the range of activities and information available across the organisation. The revised site will also have a strong focus on education resources for students. A tender for the website redesign should be let in the second half of 2000.

6.2 CATCHMENT EDUCATION

Warragamba Dam Education Centre

The Education Team at Warragamba continues to deliver high-quality catchment education to around 6,000 students from more than 90 education institutions each year, as well as interested members of the public. The Centre offers a high-tech, interactive computer presentation, delivered in the SCA's theatrette, and an interpretive catchment walk.

Visitor attendance for Warragamba is currently down due to the Auxiliary Spillway construction which prevents access to the dam, however figures for the year are:

Primary students	2, 854
Secondary students	2, 281
Tertiary Students	165
VIPs	116
Community groups	31
Total	**5, 447**

In addition to face-to-face delivery, SCA education staff have sent out around 600 information packages to students and members of the public, or referred callers to relevant websites and agencies – helping people to do their own research about the catchments and bulk water supply system.

The SCA will continue to fit the needs of the formal education system wherever possible, offering excursions and information packages that feed into the current curriculum.

Streamwatch

The SCA funds the Hawkesbury-Nepean Catchment Management Trust to deliver the Streamwatch program to 29 schools and community groups in the catchments (these groups monitor water quality in their local streams and creeks). SCA Communications staff and Catchment Protection Officers actively participate in the program, offering hands-on support to groups and encouraging new groups to join.

The SCA is currently working on increasing Streamwatch coverage in the Shoalhaven area.

Mobile Education Unit

In early 2000, research and planning for a new *Mobile Education Unit* got underway. It is expected the unit will be operational by 2001. The unit will allow the SCA to take professional education and information services into all areas of the catchments, targeting both schools and the general community, with tailored programs and activities. SCA education staff will consult with fellow educators in a range of other agencies in developing content for the unit.

New Visitor Education Centre for Warragamba Dam

Also in early 2000, planning began for the rehabilitation of the visitor facilities at Warragamba Dam. The SCA has established a working group to redevelop the site and lead the detailed planning for the educational component. This project provides an exciting opportunity to improve on an existing product and provide state-of-the-art education at one of the SCA's best-known facilities.

Planning for the recreational and educational aspects of the centre will involve extensive community and stakeholder consultation.

6.3 MEDIA

The SCA had its genesis in one of the most publicised disruptions to essential services experienced in Australia. Intense media coverage during and after the 1998 water quality incidents - at local, state, national and international levels - has kept water quality continuously in the media spotlight.

The SCA has taken a proactive approach to media relations. SCA staff developed an information kit which was personally delivered to key catchment media and distributed broadly amongst metropolitan print and electronic media.

In the ensuing months, the SCA has generated a steady stream of positive media releases highlighting a broad range of SCA and inter-agency activities, events and personnel. These have been taken up in media throughout the catchment and beyond.

The nature of the SCA's role in the catchments, particularly its regulatory and development control functions, has been the subject of lively debate in regional media.

The SCA has responded regularly to regional media attention on a variety of issues including bulk water pricing, SCA budget and role, riparian fencing, recreational use of waterways, rehabilitation of Wingecarribee Swamp, and the future of Welcome Reef Dam.

Metropolitan media attention has focused on funding issues, the results of the first Catchment Audit, and water quality monitoring.

THE YEAR AHEAD

The year ahead promises to be busy for both community relations and catchment education. Activities already planned include:

- jointly hosting a Sydney Catchments Environmental Educators Forum with the EPA
- attending a schedule of rural shows and field days between July and December 2000
- sponsoring and displays at Macarthur Waste Board's Chemical Collection Days, Wollondilly Landcare Forum, and Southern Highlands Biodiversity Day
- Water Week 2000 activities in October 2000
- undertaking community market research to help understand and meet information needs
- updating the SCA's website
- developing and launching the SCA mobile education unit
- developing an SCA-wide interpretive planning strategy to inform the redevelopment of the Warragamba Visitor Centre and prioritise interpretive opportunities for other SCA sites
- official opening of new SCA offices in Goulburn, Moss Vale, and the Blue Mountains.

7) COMMUNITY CONSULTATION AND FEEDBACK

OVERVIEW

The way the community interacts with the catchments in which they live and work has a big impact on catchment health. Community support for catchment management and protection is essential to the work of the SCA and to achieving its ultimate objectives of healthy catchments and clean water.

The SCA has already developed partnerships with the communities who live and work in the catchments, with state agencies and local governments, and other interested groups. The SCA will continue to work cooperatively with these groups to achieve the best outcomes for the catchments.

7.1 CONSULTATIVE COMMITTEES

The SCA is investigating ways to encourage greater community involvement in its activities. As a result, work is now underway to set up two Regional Catchment Consultative Committees. The SCA is also establishing an Expert Panel and a Local Government Reference Panel to help with management issues in the catchment area and to receive feedback on matters of concern. The committees will comprise community representatives from local environmental groups, peak environment groups, catchment management groups, public health experts, business groups, farming interests, local government and customers.

All four committees will be established in the second half of 2000, and will meet throughout the year.

7.2 EXHIBITION OF PLANS AND REGULATIONS

The SCA has had a busy first year developing the tools necessary to do its job and seeking public feedback on its activities. Documents on public exhibition for comment during the year included:

- Draft Special Areas Strategic Plan of Management
- Draft Sydney Water Catchment Management (General) Regulation 2000
- Draft Environmental Indicators for the Sydney Catchment Authority.

7.3 WARRAGAMBA AUXILIARY SPILLWAY PROJECT

An essential component of the construction of the new $150 million spillway at Warragamba Dam is the successful partnership between the SCA and the local community.

This partnership is facilitated through an independently chaired Community Consultation Committee supported by a Community Consultation Coordinator and an established Community Liaison Office in the township.

The SCA is implementing a Communication Plan for the project employing a range of strategies including regular meetings and briefings, complaint registration and resolution, community noticeboard and newsletters, letterbox drops, site tours, special events, and open days. The plan is working well to ensure open, two-way communication between the community and the SCA, and to minimise the impact of the project on local people.

During 1999-2000, consultation has focused on community concerns about the impact of noise and vibrations associated with the blasting and excavation stage of the project.

As the project enters its second year, the SCA is actively managing community concerns about the possible impact of the next significant construction stage, increased truck movements associated with the construction of the spillway.

7.4 COMPLAINTS HANDLING

The SCA has established a Complaint Handling Policy and Procedure. It aims to resolve complaints from customers and the community by providing a solution, or negotiating an agreed course of action, with the complainant. The SCA's policy is to respond to any complaint in a prompt, efficient and fair manner, to ensure that customer and community satisfaction is maintained, and that where appropriate, its business processes are improved.

The new complaints procedures are supported by a computer based complaints handling system.

During the period 1 July 1999 to 30 June 2000 the Sydney Catchment Authority received a total of 157 complaints. Of these, 138 complaints were related to the construction of the Warragamba Dam Auxiliary Spillway.

The categories and numbers of complaints received from the community during 1999-2000 were:

- customer service – 1
- environmental and heritage issues – 95
- liability claims (damage) – 36
- picnic area facilities – 11
- staff/contractors – 14.

As at 30 June 2000 there were 15 complaints still to be resolved:

- environmental and heritage issues – 9
- liability claims (damage) – 3
- picnic area facilities – 1
- staff/contractors – 2.

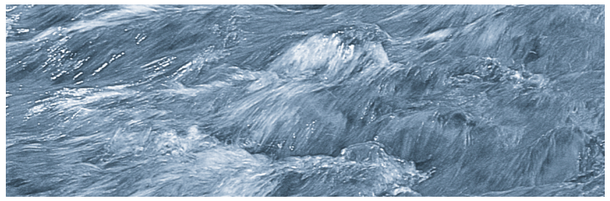
THE YEAR AHEAD

Training for all SCA staff in the new Complaints Handling Policy and Procedures will be complete early in the new financial year.

A brochure is being prepared to inform customers and the community about our complaints handling policy. In the meantime, the Sydney Catchment Authority's website: www.sca.nsw.gov.au explains the SCA complaint and compliment procedures.

The coming year will see many more opportunities for public comment and interaction, with the following items due for release:

- Draft Wingecarribee Swamp and Special Area Plan of Management
- Draft Pollution Source Risk Management Plan
- Draft Ecologically Sustainable Development Indicators
- Draft Sydney Water Catchment Management (Environmental Protection) Regulation
- Draft Sydney and Adjacent Regional Centres Drinking Water Catchments Regional Environmental Plan
- Draft Sydney Catchment Authority Environmental Plan



8 HUMAN RESOURCES

OVERVIEW

One of the SCA's corporate values is caring for and valuing employees. We value our people by:

- providing a high quality work environment where productivity, creativity and personal and professional growth can flourish
- valuing diversity and the open exchange of ideas and information
- conducting ourselves with honesty and integrity and treating each other fairly
- fostering a culture of excellence, highly supportive of employee growth and development
- demonstrating a commitment to safety and public health
- striving to achieve equal opportunities and equitable outcomes for fellow employees, stakeholders and members of the community
- treating people as individuals with rights, and with courtesy, respect and discretion.

To facilitate the effective management of our people, the SCA manages:

- the health, safety and welfare of our workers
- employee relations and remuneration
- integration of quality in the SCA's business processes
- organisational development
- human resources policies and procedures.

8.1 PEOPLE PROFILE

The SCA employs a diverse group of people with a wide range of skills and expertise. Much of the early workforce and divisional structure was transferred from relevant areas in Sydney Water Corporation. The SCA has since restructured its Divisions in order to best meet its objectives, and has created and filled new positions necessary to its long-term success.

The following figures and tables provide some insight into our people.

TABLE 6: CATEGORIES OF SCA STAFF

Category	30th June, 2000
Chief Executive Service	1
Senior Executives	13
Senior Managers/Specialist	13•
Award Staff	128*
Total Numbers	**155**
Total FTE Numbers	**146.6**

- Includes 3 women senior manager/specialists. There are no Senior Executive women.
* Includes 13 casuals with a full time equivalent (FTE) of 4.6 employees

TABLE 7: NUMBER OF CES/SES POSITIONS

CES/SES Equivalents	1999/00
Level 8	0
Level 7	0
Level 6	1
Level 5	1
Level 4	0
Level 3	1
Level 2	4
Level 1	7
Total	**14**

FIGURE 5: SCA STAFF AGE STATISTICS

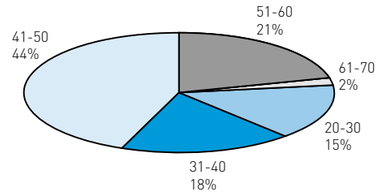
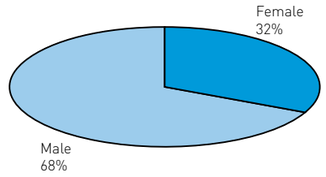


FIGURE 6: SCA STAFF GENDER STATISTICS



8.2 OCCUPATIONAL HEALTH, SAFETY AND REHABILITATION

The SCA has a very positive approach to occupational health and safety with two very active OH&S committees working on developing effective safety systems. This approach has led to a number of excellent preventative strategies aimed at building a positive safety culture. Included in these are the SCA's OHS&R System Manual and leading edge procedures, such as the permit to work system, or regular safety auditing program.

To complement its success in managing safety the SCA has adopted a similar approach to reinforcing the importance of employee welfare and job satisfaction. Two examples of this approach were the skin cancer screening program in which most employees had their skin checked, and an employee Health Fair - a health and well-being open day staffed by doctors, exercise physiologists, dietitians, masseurs and psychological counsellors.

TABLE 8: SCA OHS&R RESULTS 1999-2000

Days lost to injury	1
Total direct cost of injuries 1999-2000	$1124
Injury free days 1999-2000*	123
Injury frequency rate*	6.99
Injury incidence rate*	12.50
Serious injuries	(›7 days off)
Injuries resulting in lost time or ›$500 cost	2
Dangerous occurrences reportable to WorkCover	1
Prohibition/improvement notices	Nil
WorkCover fines	Nil

TABLE 9: OHS&R RESULTS - CONTRACTORS EMPLOYED ON SCA PROJECTS 1999/2000

Days lost to injury	32
Dangerous occurrences reportable to WorkCover	3
Injuries resulting in lost time	8
Prohibition/improvement notices	Nil
Serious injuries (›7 days off)	3
WorkCover fines	Nil

* Calculation based on all injuries resulting in time lost or costing ›$500 or more. Source: SCA, 2000

Over the financial year there were 13 compensatable injuries suffered by employees. Four of these were recurrences of injuries that originally occurred while working for a previous employer and were not related to work performed at SCA. Of the remaining nine compensatable injuries, three occurred during journeys to and from work and two were related to out-of-hours sporting activities. Only four compensatable injuries were suffered as a result of work, one of which cost in excess of $500 and as such will be counted against the SCA in future workers' compensation premium calculations.

No work related illnesses were recorded for this period.

Over the year the SCA had an extremely low rate of only 0.0028% of time worked lost to injury. These low rates of injury, time lost and the low costs associated with these injuries will bring about significant reductions in workers' compensation premiums over the next two financial years.

8.3 CULTURAL DIVERSITY

This section deals with data that was volunteered by staff via Equal Employment Opportunity (EEO) surveys regarding cultural diversity in the workplace.

- **Aboriginal & Torres Strait Islanders**
  There is one Aboriginal employee of the Authority.
- **People from minority groups**
  This category relates to employees who are from racial, ethnic, ethno-religious minority groups. The current data indicates that the Authority employs 20 people in this category.
- **People with English as a second language**
  There are 16 people whose language first spoken as a child was not English.
- **People with a disability**
  There are nine people who have a limitation or restriction through a physical or other disability.

8.4 DISABILITY PLANS

In the year ahead the SCA will develop a three-year Action Plan, in line with NSW Government Disability Policy.

This plan will identify any barriers that inhibit or prevent people with disabilities accessing the SCA's services.

It will incorporate the following principles:

- People with disabilities are full and valued members of the community
- People with disabilities will have access to services provided to the general community
- In the provision of services to people with disabilities the focus will be on the whole of life needs of individuals in their own communities
- Better outcomes for people with disabilities will result from co-operation among service providers, with the active participation of people with disabilities
- Services will support and be sensitive to the diversity of people with disabilities
- The unique needs of people with disabilities of Aboriginal and Torres Strait Islander background will be recognised
- The legal rights of people with disabilities will be recognised and protected.

Preparation of the action plan will involve committee and focus group meetings. People with disabilities will be invited to contribute to its development.

The SCA has targeted "reasonable adjustment" in employment, recruitment and selection that provides the opportunity for staff with disabilities to identify any adjustments needed in their workplace. These can include: changing car seats and chairs, adjusting the height of desks, and using ergonomic aids.

8.5 NSW GOVERNMENT ACTION PLAN FOR WOMEN

The NSW Government's Action Plan for Women includes strategies that focus on women with least access to social and economic resources.

The SCA supports the objectives of the Action Plan for Women, which are to:

- reduce violence against women
- promote workplaces that are equitable, safe and responsive to all aspects of women's lives
- maximise the interests of women in micro-economic reform
- promote the position of women in all aspects of society
- promote access and successful outcomes for women in all parts of the education and training system
- improve the health and quality of life of women in NSW.

Initiatives supported by the SCA that impact upon the recruitment, employment, promotion, development and working environment of women are:

Spokeswomen's Group: This group provides SCA women with opportunities to develop and promote their skills and knowledge. In July 2000 two spokeswomen will be appointed to represent all divisions in the SCA.

Flexible Work Practices: The SCA encourages flexible work practices. These are documented in our People and Quality Manual. A number of women are currently working part-time.

Recruitment and Selection: The SCA policy states that at least one selection committee member must be female.

8.6 ETHNIC AFFAIRS

The SCA policy for recruitment and selection states that when setting up selection committees, members should preferably represent a variety of backgrounds. The inclusion of one or more people from a racial, ethnic or ethno-religious minority group is recommended. This is important when the nature of the position or the background of likely applicants requires an awareness and appreciation of a particular community or communities.

8.7 OVERSEAS VISITS BY SCA STAFF

Name:	Dr Daniel Deere
Division:	Catchment Protection
Date:	30 June to 7 July 2000
Destination:	Paris
Conference	1st Biennial International Water Association Meeting & 10th Health Related Water Microbiology Symposium.

Name:	Mr Adrian Williams
Division:	Dam Safety and Technical Services
Date:	19 September to 2 October 1999
Destination:	Turkey
Conference:	International Conference on Large Dams

8.8 SCA STAFF ABOVE SES LEVEL 5:

The SCA has two executive officers at or above SES Level 5. Their positions and performance against specific criteria are outlined below.

Performance Report on Executive Officers at or above Level 5

Name	**Jeff Wright**
Position & Level	**Chief Executive CES Level 6**
Total Remuneration Package	**$202,000**
Bonus	**$1,500**
Period in Position	**Full Year**

A summary of criteria used to assess the Chief Executive's performance follows:

Strategic Direction and Priorities

Established strategic directions and priorities that were approved by the Board and the Minister. These priorities reflect the whole-of-government approach necessary to successfully manage issues affecting water quality. They were promulgated widely throughout the organisation, and to appropriate external stakeholders. They formed part of the Minister's public response to the Catchment Audit. A detailed draft action plan was prepared.

Financial Management

Developed a Statement of Financial Framework that was approved by the Minister and the Treasurer on the recommendation of the Board, with careful attention being given to appropriate financial performance indicators. The organisation's finances were carefully managed so as to deliver the required financial outcomes.

Bulk Water Agreement

Developed an agreement under Section 22 of the Sydney Water Catchment Management Act 1998 for the supply of water by the Authority to Sydney Water. After public exhibition and review of the Agreement by the Independent Pricing and Regulatory Tribunal, it was signed on 15 September 1999.

Water Quality

Schedule 2 of the SWCM Act states that the Chief Executive's performance criteria must include criteria that requires improvement of the quality of the water in Catchment areas.

Accordingly, the SCA has commenced an extensive program of water quality monitoring within the major storages, and a catchment protection and enhancement program to protect and enhance water quality. Developed new regulations to enable the SCA to undertake an appropriate regulatory role within the catchments.

Catchment Management

Supported the Board in determining a set of eight strategic priorities for the Authority (see Report from Chair and CEO). Detailed action plans were then developed to give effect to the strategic priorities which were incorporated into the organisation's Business Plan.

SEPP 58

Amendments to SEPP 58 were achieved and gazetted allowing the SCA to effectively administer the SEPP and substantially reduce the turnaround time for processing developments requiring concurrence. Before the transfer, the SCA helped the Department of Urban Affairs and Planning (DUAP) administer the SEPP. The SCA also participated in a number of forums assisting DUAP to prepare a draft Regional Environment Plan.

Catchment Audit

Managed arrangements for undertaking the first audit of the water supply catchments. The Audit was completed according to the time frame required by the SWCM Act 1998. The Audit report was tabled in Parliament as required by the Act and publicly released on 4 January 2000. The report is available on the SCA's web site. More than 500 hard copies have been distributed to key stakeholders and the general community.

Memoranda of Understanding

Prepared Memoranda of Understanding under Section 36 of the Sydney Water Catchment Management Act 1998. They were of a nature referred to in the Operating Licence and were completed within six months of the granting of the Licence.

The three Memoranda of Understanding were developed in line with the statutory deadline and signed in December 1999 between SCA and:

- EPA
- NSW Health
- Water Administration Ministerial Council (DLWC)

The SCA continues to meet its obligations under the Memoranda and to participate in combined officers group meetings with NSW Health, DLWC and EPA.

Capital Works

Developed a 10-year coordinated capital works program, encompassing 54 projects (including the Warragamba Auxiliary Spillway) at a total cost of $268.13M. An average annual expenditure of $12M (excluding the Auxiliary Spillway) is anticipated. The SCA Board submitted the Capital Works Program on 11 February 2000, and the Minister approved it shortly after.

Asset Management Strategy

In line with the Government's Total Asset Management System, developed a sound, comprehensive and fully integrated Asset Management Strategy to help the Authority meet its obligations in managing its extensive system of critical public assets.

Incident Management

Completed the first edition of the SCA Incident Management Manual as required under Clause 6.7 of the SCA's Operating Licence to minimise potential risks to human health from water supplied to its customers by the Authority. Favourable comments were received and were incorporated in the final plan that was delivered to the Licence Regulator on 29 June 2000.

Communication and Consultation

Undertook extensive consultation with key stakeholders, in particular local authorities within catchment communities and other agencies with a role or interest in water quality issues. Promoted the SCA and its objectives in a range of forums, seminars and conferences both locally and interstate. Supported the establishment of a sound community relations and education program and actively participated in the SCA's media relations program.

Name	**Adrian Williams**
Position & Level	**General Manager Dam Safety & Technical Services SES level 5 equivalent**
Total Remuneration Package	**$154,000**
Bonus	**$7000**
Period in Position	**Full Year**

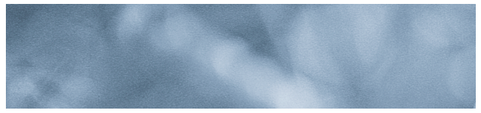
A summary of criteria used to assess the General Manager's performance follows:

QMS Certification

Successfully maintained compliance of the Quality Management System of the Dam Safety Business Unit. External audit found that the system continues to comply with the requirements of ISO9001 with no non-conformances found.

Dam Surveillance Reports

Led the development of Dam Surveillance Reports for Nepean Dam and Broughtons Pass Weir. Reports are in progress for Avon, Wingecarribee and Cataract Dams and Kangaroo Pipeline Control Structure. Dam Surveillance Reports for the 21 prescribed SCA dams are being prepared at five-yearly intervals for submission to the NSW Dams Safety Committee.



Dams Safety Committee (DSC)

- Provided effective representation of the Authority on the main NSW DSC. The DSC administers the NSW Dams Safety Act and at present, 260 dams in NSW are prescribed under the Act.
- Provided leadership in the industry through chairmanship of the Australian National Committee on Large Dams (ANCOLD). ANCOLD co-ordinates national activities relating to investigation, design, construction, operation, maintenance and safety improvements for dams.
- Performed the important position of chairman of the Committee on Dam Safety of the International Committee on Large Dams (ICOLD). Of the 81 ICOLD participating countries, 27 are members of that committee. The primary task of the committee is to prepare guidelines on risk assessment for dams. The target date for completion of the guidelines is November 2001.
- Provided input into international issues as ICOLD's Vice President, Africa-Australasia Zone, for a three-year term. The ICOLD executive comprises a president, secretary-general and six vice-presidents. It co-ordinates international activities associated with dams.

Provision of Services

Effectively led the activities of the Division in the provision of services to the organisation such as annual inspections, dam safety reviews, capital works support, client representation and program management.

Coal Mining

Effectively led the rigorous assessment of the applications for mining in the vicinity of the Authority's dams, water delivery infrastructure and storages.

Energy Management

Led the development of the Authority's Energy Management Policy and Plan for 2000/01. The plan sets out a program and timetable addressing the Authority's Energy requirements under its Operating Licence and the NSW Government's Energy Management Policy.