

Environment Protection Authority

Annual Report
1998-99



Government
of South Australia

Environment Protection Authority
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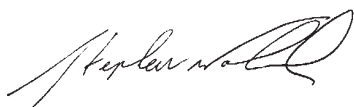
LETTER OF TRANSMISSION

The Hon Dorothy Kotz MP
Minister for Environment, Heritage and Aboriginal Affairs
Parliament House
North Terrace
Adelaide SA 5000

Dear Minister

It is with pleasure that I present to you the Annual Report of the Environment Protection Authority for the period 1 July 1998 to 30 June 1999. This report has been prepared in accordance with the requirements of the Environment Protection Act 1993.

Yours sincerely



Stephen Walsh
Chair
Environment Protection Authority

October 1999

FOREWORD

This is the fourth annual report to be submitted to Parliament by the Environment Protection Authority. In submitting this report we seek to provide to the reader a picture of the programmes, activities and major decisions that have been made by the Authority, and by the Environment Protection Agency under delegation from the Authority.

The report is structured to give an overview of the many issues that have been dealt with in the core environmental areas of Water, Waste, Noise and Air during 1998-99. Environmental monitoring, evaluation and strategy are covered in addition to the operational and regulatory work of the EPA. Some of the issues dealt with by the Authority during the year are highlighted.

The interaction of the Authority with the South Australian community is then covered. The community has many avenues to access information on the activities of both the Authority and the Agency, and many opportunities to influence the decision-making processes. These include the Round-Table conference, public input into the legislative reform programme and the making of an Environment Protection Policy. There is also opportunity for the public to be involved in the granting of authorisations and in the process of amending conditions of licence.

The members of the Authority and the staff of the Environment Protection Agency are to be congratulated for their contribution to the protection of the environment. The dedication they have shown has enabled the organisation to make the many achievements highlighted in this report.

As in previous years we continue to learn from experience and to adopt new strategies, systems and policies to meet shortcomings. This Annual Report covers the administration of the Act by both the Environment Protection Authority (the Authority) and the Environment Protection Agency under delegation from the Authority. For the purposes of this report these bodies will be referred to jointly as the EPA.



Stephen Walsh QC

Chair
Environment Protection Authority



Rob Thomas

Executive Director
Environment Protection Agency

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ACRONYMS AND ABBREVIATIONS

AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
CDL	Container Deposit Legislation
DEHAA	Department for Environment, Heritage and Aboriginal Affairs
DHS	Department of Human Services
DTUPA	Department of Transport, Urban Planning and the Arts
EIP	Environment Improvement Programme
EIS	Environment Impact Statement
EMS	Environment Management System
EPA	Environment Protection Agency and Environment Protection Authority (for the purposes of this document)
EPD	Environment Policy Division
EPEC	Environment Protection Enforcement Certificate
EPO	Environment Protection Order
IMO	International Maritime Organisation
KESAB	Keep South Australia Beautiful
LEMP	Landfill Environment Management Plan
LGA	Local Government Association
MAPIG	Maritime Accidents and Pollution Implementation Group
MARPOL	Marine Pollution Convention
MEHRA	Marine Environment High Risk Area
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHT	Natural Heritage Trust
NPI	National Pollutant Inventory
PM-10	Particulate matter less than 10 microns in diameter
PPF	Pollution Prevention Fund
SAECCI	South Australian Employers Chamber of Commerce and Industry
SAPOL	South Australian Police
SBPPP	Small Business Pollution Prevention Project
STEDS	Septic Tank Effluent Disposal Scheme
TBT	Tributyltin
The Act	The Environment Protection Act 1993
WRWMA	Western Region Waste Management Authority
WWTP	Wastewater Treatment Plant

OVERVIEW OF 1998-99

Meeting the Objects of the Act

The primary responsibility of the EPA is to deliver on the Objects of the *Environment Protection Act 1993* (the Act). Broadly, the Objects of the Act seek to ensure that the use, development and protection of the environment is managed at a rate that will provide for the economic, social and physical well-being of human society. Proper weight must be given to both long- and short-term economic, environmental, social and equity considerations whilst preventing, reducing, minimising and, where practicable, eliminating harm to the environment.

Fundamental to all decisions of the EPA is that a precautionary approach must apply to the assessment of risk of environmental harm.

The EPA has always firmly believed that the best outcomes for the environment will generally be achieved by negotiation of environmental improvements with the regulated community, complemented, if necessary, by the use of civil enforcement measures (such as mandatory Environment Improvement Programmes, Environment Protection Orders and Clean-Up Orders). Such measures are clearly preferable to expensive and time-consuming litigation, although this latter option has been, and will be, used as the need arises.

During 1998-1999 the EPA, through the commitment and dedication of its staff, has made good progress towards achieving sustainable environmental outcomes for South Australians. Nevertheless, there are many significant issues which need to be addressed, and which will determine the EPA's priorities for 1999-2000.

Legislation and Policy

Foremost in the EPA's priorities is review of the Act itself. The Act was assented to in October 1993, and is in need of significant strengthening and/or amendment in a number of areas, notably the need for:

- specific provisions to deal with site contamination
- amendments to the enforcement provisions in the Act, which have hampered effective enforcement (especially prosecution) by the EPA
- clearer definition of the respective roles of the Minister, the Authority and the Agency
- review as required by National Competition Policy
- a range of detailed amendments to improve the efficiency and effectiveness of the Act.

The EPA is also pressing ahead with the development and implementation of a number of important Environment Protection Policies, to further strengthen its administration of the Act. After a lengthy period of consultation, the Environment Protection (Water Quality) Policy is now in the final stages of development and should be promulgated in 1999-2000. The EPA is also preparing discussion papers on an Environment Protection (Waste Reduction, Recycling and Disposal) Policy, a consolidated Environment Protection (Noise) Policy and an Environment Protection (Landfill Gas) Policy. These discussion papers will be released for public comment in 1999-2000.

The effectiveness of the EPA in achieving the Objects of the Act is, as it should always be, the subject of constructive public debate. Through this process, the EPA and government can examine their priorities and allocate resources to deliver effective outcomes.

The EPA's annual Round-Table Conference in June 1999 was attended by 180 delegates from industry, local government, community groups and government agencies. Whilst acknowledging the progress that had been made, a number of delegates were critical of the availability of resources to the EPA to deliver on its responsibilities. This has been an ongoing concern of delegates to this Conference since the inaugural Round-Table Conference in 1997.

A number of actions to address these concerns are in progress:

- The Agency was restructured at the beginning of the 1998-1999 year, to increase the resources available to the Authority, and to improve internal efficiencies.
- The EPA was granted an increase in staff resources for the 1999-2000 year of the equivalent of 11 positions.
- The EPA is involved in a pilot programme with a small number of councils to assess the practicability and effectiveness of empowering local council environmental health officers as authorised officers under the Act. Such a programme, if widely implemented, would make a major contribution to the implementation of the Act in South Australia.

Air Quality

Adelaide enjoys arguably the best air quality of all Australian cities, and general air quality has significantly improved over the last 20 years due to industry-focused legislation and voluntary improvements by industrial and commercial operations. A number of local air quality issues have, however, become a serious concern to the EPA and to the local communities involved. These have generally arisen because of poor planning practices by local authorities, which have allowed residential development close to existing industrial operations, although in some cases they have arisen through well-intentioned, but misguided, planning approval for the siting of industrial facilities. The EPA is currently reviewing its environmental assessment procedures to prevent similar issues arising in the future.

Water Quality

1998-99 saw the commencement of the State Water Monitoring Coordinating Committee in October 1998, chaired by the EPA. This is in response to growing concern over both point source and diffuse pollution of water catchments, especially in the Adelaide Hills.

The EPA has insisted on stringent Environment Improvement Programmes in a number of instances, to prevent the use of certain chemicals or herbicides, or to require improved management practices.

The EPA has also released a number of Stormwater Codes of Practice, for the general community, industrial, retail and commercial premises, State, Federal and Local Government, and the building and construction industry.

1998-99 saw a threefold increase in the number of water-related pollution complaints lodged with the EPA, compared to the preceding year. This reflects improved community awareness of stormwater pollution as an important environmental issue.

The EPA will continue to work in partnership with catchment water management boards to improve industry and community awareness of stormwater and catchment management issues.

The Marine Environment

The ecosystems in Adelaide's gulf waters have been severely impacted by industrial, sewage and stormwater discharges. These impacts have resulted in extensive loss of seagrass, increases in sand movement, degradation of reef systems, algal blooms and poorer water quality. In response to these problems, the EPA, in association with other government agencies, industry and the catchment water management boards, has been responsible for major upgrades to sewage treatment works, significant catchment improvement works, education and awareness programmes, installation of large wetlands to treat stormwater, and industry-based environment improvement programmes. The total cost of these works is in excess of \$200 million.

The North West Region of Adelaide, which encompasses the cities of Port Adelaide Enfield, Charles Sturt and Prospect, is typified by intensive industrial and commercial land use. This is in contrast with the area's unique ecological system of coastal estuaries, wetlands and rivers. After allowing all our wastewater to run into the Port waterways (which include West Lakes, the Port River, North Arm and Angas and Bremer Inlets) for over 100 years, we are learning to value the beauty and variety of these waterways and the diversity of marine life that they support, as well as the opportunities for education, recreation and commercial activity. Recognising this, the EPA has released a strategy 'Protecting the Port Waterways' to protect and restore these waters. This will not be an easy task, and the strategy calls for an integrated catchment management approach to achieve sustainable environmental, economic and social outcomes for the area.

The EPA has also contributed to the development of the ANZECC strategy 'Working together to reduce impacts from shipping operations'—the so-called 'Seagull Report'. Implementation of the strategy in South Australia will involve a comprehensive range of measures dealing with port reception facilities, prevention of pollution from ships, ballast water management, anti-fouling preparations, dredging and sea dumping. A Bill for an Act to be called *Protection of Marine Waters (Prevention of Pollution from Ships) Act* passed all stages in the SA Parliament by September 1998.

As a result of EPA action, Penrice Soda Products intends to change its method of disposal of waste from the final stage of its soda ash production at Osborne. For the past 35 years the company has been legally disposing of its final waste into a pocket dredged into the Port River, followed by periodic (every two to three years) dredging of the spoil and subsequent dumping on a spoil ground north west of Outer Harbour. Penrice Soda Products is now one of only a very few companies in the world to be implementing a more environmentally-sustainable waste disposal method, namely land-based disposal, at a low-lying section of land in Gillman that requires filling to enable future industrial development. Pressure from the local community and the EPA was a significant factor in the company seeking this alternative waste disposal solution.

To better provide for the future sustainable management of the Adelaide coastal waters, the EPA is proposing to undertake a major detailed integrated study of the coastal waters system, hopefully commencing in the 1999-2000 period. So far, \$2.1 million has been pledged by the EPA and other government agencies, industries and the catchment water management boards. To date, the Federal government has been unwilling to contribute to the study, which will cost approximately \$3.5 million over three to four years.

Noise

In 1998-99, the EPA received 787 noise complaints and provided advice on 1620 noise issues, the majority of which involved excessive noise coming from domestic premises. To enable the EPA to deal more effectively with non-domestic environmental noise issues, negotiations have commenced with local government to introduce administration of these complaints at the local level.

The EPA also continued to work in conjunction with the SA Police (who have the power to detain vehicles) to curb excessive vehicle noise. Five campaigns were held in the year, three in the city area and one each in Port Augusta and Monteith.

Waste Management and Pollution Prevention

Two major environmental objectives of the EPA are to establish a best-practice waste management system in South Australia, and to promote pollution prevention in industry and the community.

1998-99 saw a number of significant developments towards these two objectives, including:

- creation of an Interim Waste Management Committee to replace Recycle 2000, and to advise the EPA with respect to a new Environment Protection Policy on waste management
- resolution of the timetable (no later than 31 December 2004) and post-settlement closure height of the Adelaide City Council-run Wingfield landfill (27 metres Australian Height Datum)
- requirement for very strict environmental controls for three new landfills approved by the Minister for Transport and Urban Planning
- progress towards an orderly closure of the Garden Island landfill by 31 December 2004, together with implementation of an Environment Improvement Programme for the facility
- completion of the first major audit of metropolitan solid waste disposed to landfill, which has shown the potential for a viable cardboard recycling plant in Adelaide
- identification of two potential sites for the treatment of green organic waste, and preparation of draft siting guidelines for green waste processing/composting
- strengthening of the provisions of SA's successful beverage container deposit legislation to prevent the transportation from interstate of non-deposit beverage containers which, since no deposit has been paid on the containers, threatened to undermine the viability of SA's container collection depots
- completion of a review of the EPA's Pollution Prevention Fund, which had provided financial assistance for cleaner production and recycling projects. The independent review determined a conservatively estimated benefit-cost ratio of 36.3, and the generation of 94 jobs, as well as major resource and waste minimisation benefits.

Priorities for 1999-2000 include the development and implementation of the Environment Protection (Waste Reduction, Recycling and Disposal) and (Landfill Gas) Policies; a marketing programme to promote the benefits of cleaner production and pollution prevention; facilitating the introduction of resource recovery infrastructure for green waste and other recyclables; and support of South Australia's litter strategy.

Enforcement

The EPA's new Investigations Unit was established on 1 July 1998. During the year a number of compliance audits were completed and 303 Environment Protection Orders were issued (266 related to domestic noise and were issued by the SA Police).

The EPA also resolved to prosecute on three occasions. On 30 April 1999, Mobil Refining Australia Pty Ltd was convicted of causing material environmental harm at its Lonsdale Plant on 29 April 1998 as a result of a release of ethyl mercaptan from the plant. Mobil was fined \$24,000 with \$600 costs. Mobil is also spending \$500,000 on an upgrade of its ethyl mercaptan dosing facility as a result of the incident.

Holden Ltd has been charged with causing an environmental nuisance and breaching its Environment Protection licence on two different grounds at Elizabeth on 5 June 1998. A guilty plea is to be entered at court on 5 October 1999.

Integrated Waste Services were charged with breaching their environmental authorisation by receiving a prohibited waste. The company pleaded guilty and received a conviction and a fine of \$2,000.

Following a thorough investigation, the EPA has also resolved to prosecute Mobil Refinery Australia Pty Ltd for an oil spill into the ocean after a tanker unloaded oil at Port Stanvac on 28 June 1999. This prosecution will be laid under the *Pollution of Waters by Oil and Noxious Substances Act 1987*.

1.0 INTRODUCTION

The Environment Protection Authority has been in operation since May 1995, with the introduction of the *Environment Protection Act 1993* (the Act). The Authority is a six-member statutory body with members appointed by the Governor for a maximum term of two years and the Chair appointed by the Governor for a maximum term of three years. Authority members are appointed because of their practical knowledge of, and experience in, defined areas as indicated below.

1.1 The Environment Protection Authority

Mr Stephen Walsh QC

Mr Walsh is Chair of the Authority as a person with "qualifications and experience relevant to environmental protection and management or natural resources management". An important role of the Chair is to be the voice of the Authority when communicating its position on issues of environmental importance. Stephen's qualifications as an arbitrator and negotiator have made him well suited for this role, particularly with the challenges faced in 1998-99.

Mr Nicholas Begakis, BTech

Mr Begakis was appointed to the Authority as a person "with practical knowledge of, and experience in, industry, commerce or economic development".

Ms Jennifer Cashmore

Ms Cashmore was appointed to the Authority as a person with "practical knowledge of, and experience in, environmental conservation and advocacy on environmental matters on behalf of the community".

Mrs Anita Aspinall, BA (Social Science)

Mrs Aspinall is Vice Chair of the Authority appointed for her "practical knowledge of, and experience in, local government".

Dr David Cruickshanks-Boyd BSc (Hons), PhD

Dr Cruickshanks-Boyd was appointed to the Authority for his "practical knowledge of and experience in the reduction, reuse, recycling and management of waste and the environmental management industry".

Mr Rob Thomas, BSc (Geology), BSc (Hons) (Zoology), MPhil (Applied Biology)

Mr Thomas was appointed Executive Director of the Environment Protection Agency in 1992 and is an ex-officio member of the Authority.

1.1.1 Meetings and Other Activities

Over the 1998-99 period, the Authority formally met on 15 occasions. In addition, members attended the Round-Table Conference on 5 June 1999.

Individual members have represented the Authority at a range of other meetings and functions, including chairing conference sessions, and attending official openings and professional association meetings. When necessary, site visits are arranged to assist in the decision making process. In 1998-99, members of the EPA visited the Bolivar Wastewater Treatment Plant, Garden Island landfill and the mine site at Brukunga to better inform themselves of the environmental issues associated with those activities.

1.2 Responsibilities of the Authority

Section 13 of the Act imposes the following functions upon the Authority:

- administer and enforce the Act
- prepare draft environment protection policies
- review environment protection policies
- contribute to the development of national environment protection measures
- consider development applications referred to it under the *Development Act 1993*
- promote the pursuit of the objects of the Act by all levels of government, the private sector and the public
- institute or supervise environmental monitoring and evaluation programmes
- encourage and assist the development and implementation of best environmental management practices, and for that purpose encourage environmental audits, emergency planning, Environment Improvement Programmes, environment performance agreements and similar measures
- promote the development of the environment management industry of the State
- conduct or promote investigations, research, public education and other programmes and projects in relation to the protection, restoration or enhancement of the environment
- prepare State of the Environment Reports
- perform any other functions assigned to the Authority by or under any other Act.

1.3 The Environment Protection Agency

The Environment Protection Agency (the Agency) is a division within the Department for Environment, Heritage and Aboriginal Affairs (DEHAA). The Agency comprises the following branches: Strategy, Operations, Evaluation, and Business Services. Appendix 1 provides an overview of the structure of the Agency.

Many of the powers and functions of the Authority under the Act have been delegated to staff within the Environment Protection Agency. The level of delegation varies from solely the Executive Director, to branch managers, and to employees who have been appointed as authorised officers for the purposes of the Act. However, the Authority remains the prime decision-maker on significant or contentious issues. The following report incorporates the administration of the Act both by the Authority, and by the Agency acting as delegate of the Authority. A list of delegations by the Environment Protection Authority under the Act can be found in Appendix 2.

2.0 STATE OF THE ENVIRONMENT REPORT FOR SA 1998

The Environment Protection Act requires the EPA to produce a State of the Environment report at least every five years. Reports have been previously produced in 1988 and in 1993. The *State of the Environment Report for South Australia 1998* (SOE) is the third report in the series.

The *State of the Environment Report for South Australia 1998* has been prepared using a new reporting framework, based on measures which focus on the quality and quantity of the State's environment and natural resources. The reporting framework seeks to simplify environmental reporting processes by reporting on key environmental indicators and analysing the quantifiable change in these measures. This reductionist approach to environmental reporting makes information more accessible to decision makers, resource managers and the community, and more closely aligns environmental reporting with economic reporting.

The report reveals that some aspects of our environment are in good condition by international standards, particularly air quality. However, whilst our approach to environmental management is generally of a high standard, aspects of our environment are severely threatened and in need of comprehensive effort by governments and the community to reverse the decline.

Recent initiatives such as those of community Landcare groups, catchment water management boards, soil conservation boards and all levels of government are encouraging, although it is generally too early to measure the positive impacts of these programmes.

Since publication of the 1993 SOE report, some major achievements have been realised.

- Air quality in the Adelaide airshed is good and continues to improve. Since the 1993 SOE report airborne pollution levels have exceeded air quality guidelines on fewer occasions.
- South Australia has continued to meet the Montreal Protocol targets for phasing out ozone depleting substances.
- The creation of catchment water management boards since 1995 has provided funding and mobilised community groups to initiate projects to progressively improve our inland waterways and reduce stormwater pollution of our coasts.
- In 1995 the Murray-Darling Basin Ministerial Council introduced a cap on water diversions from the River Murray to prevent unsustainable growth in diversions and over-use of the resource. Several initiatives have been implemented to reduce the input of nutrients and pollutants to the river.
- In 1994 the EPA introduced environmental monitoring and improvement programmes as a condition of all licences involving discharge to the marine environment. SA Water has since negotiated an Environmental Improvement Programme (EIP) with the EPA which will significantly reduce the discharge of nutrients to the marine environment from the Bolivar, Port Adelaide, Glenelg and Christies Beach wastewater treatment plants at a cost of approximately \$210 million. Similarly, EIPs are being developed for other wastewater treatment plants.

2.1 Recommendations and priorities for action

The priority areas for action are identified in the report in 18 recommendations. These recommendations are in keeping with the objects of the *Environment Protection Act 1993* to promote ecologically sustainable development by:

- managing the use of our natural and physical resources, recognising the needs of future generations
- safeguarding the life-support capacity of air, water, land and ecosystems
- avoiding the adverse effects of our activities on the environment.

The *State of the Environment Report for South Australia 1998* is recommended as an invaluable record of the ongoing efforts of the EPA and other government agencies to preserve and protect South Australia's environment.

3.0 AIR QUALITY AND ATMOSPHERIC PROTECTION

3.1 Quality

Adelaide enjoys arguably the best air quality of Australia's capital cities. This can be attributed both to Adelaide's favourable meteorological conditions and the EPA's effectiveness in administering air pollution control.

The EPA has several strategies dealing with issues ranging from industrial gas and airborne dust emissions to backyard burning. The backyard burning programme has been highly successful in reducing smoke pollution in Adelaide. Local Government administers this programme through delegation from the EPA. It provides input to national planning strategies, particularly for Greenhouse Management and Ozone Protection issues.

The EPA has established a network of air quality monitoring stations throughout Adelaide and major country centres. It also administers the smoky vehicle programme (in cooperation with SA Police) and an air quality monitoring programme to satisfy requirements under the Air Quality National Environment Protection Measure.

There has been a successful reduction in emissions over the past 20 years due to industry-focused legislation and voluntary improvements by industrial and commercial operations. Consequently air pollutants have decreased significantly in the Adelaide region or have been held below current ambient air quality goals despite growth in the urban population and the associated community. Airborne lead in particular has reduced with the phasing out of leaded petrol. Levels in Adelaide are approaching the detection limits of the current method.

3.2 Air National Environment Protection Measure (NEPM)

A draft monitoring plan has been developed by the EPA to satisfy the requirements of the Air NEPM. The plan will be ratified in the latter half of 1999.

The Air NEPM requires each jurisdiction to manage the exposure of the population to the six criteria pollutants listed in the measure. The six criteria pollutants are:

- carbon monoxide
- lead
- fine particles (PM-10)
- sulphur dioxide
- nitrogen dioxide
- ozone.

The EPA will seek to manage the exposure of the population through:

- preparation of a monitoring plan detailing how it will assess public exposure to the substances (including by measurements)
- reporting on the measurements within three years
- implementation of any actions necessary to ensure compliance with the standards listed for those criteria pollutants and ensuring that they are achieved within 10 years from the date of effect of the NEPM.

In accordance with the recommendations of the NEPM, a Peer Review Committee (PRC) was established to resolve scientific and technical issues arising in the course of implementation. Its Terms of Reference and Charter of Operation were endorsed in March 1999 by the NEPC Committee. South Australia is represented on the PRC, which met four times during the year. The EPA drafted discussion papers for the committee on Accreditation of Quality Assurance and Criteria for Developing Monitoring Plans.

Other matters addressed by the PRC included:

- criteria for determining the population centres or regions to which the NEPM applies
- acceptable measurement methods for particles less than 10 microns
- validation of data from non-standard methods of measurement,
- criteria for siting monitoring instruments
- criteria for accepting alternative assessment methods in lieu of direct measurement.

Much of the effort in implementation has had to focus on the PRC to clarify basic issues. The EPA has scoped its overall Monitoring Plan for the State and reviewed the current programme for Port Pirie in detail, including determining and preparing new measurement sites to reflect the requirements of the NEPM. The most recent meeting of the PRC in May 1999 considered a revised work programme and the format for a draft Uniform Monitoring Plan.

3.3 Smoky Vehicle Programme

The EPA continues its involvement in a programme to observe excessively smoky vehicles. Owners of vehicles observed by EPA officers are sent an advisory letter requesting that necessary engine repairs be undertaken. The programme is run in cooperation with the SA Police and Transport SA. The Police and Transport SA are responsible for administering regulations for the control of excessive vehicle emissions and have powers, via issuing a defect notice, to enable mandatory repairs of un-roadworthy vehicles.

EPA officers observed 467 vehicles in 1998-99, which included 245 diesel-fuelled vehicles and 222 petrol-fuelled vehicles. Forty eight petrol vehicle owners and 106 diesel vehicle owners have now returned repair advice forms detailing vehicle repairs undertaken.

More vehicles were spotted this year, an increase from 406 in 1997-98, and there was a big jump in the percentage of diesel-powered vehicles repaired, from 32% to 43%.

One option to improve the response rate is to adopt the mandatory repair approach successfully used by the NSW and Victorian EPAs, where vehicle owners are given 30 days to fix the vehicle and forward proof of repairs to the EPA or incur a fine. The EPA and Transport SA are presently considering the legislative amendments and resources necessary for this type of system.

There is increasing international concern about the harmful nature of the emissions from diesel-fuelled vehicles. Control of gross smoke emissions from these vehicles remains a priority of the programme. Repairs for diesel vehicles normally only require regular servicing rather than major engine overhauls.

The EPA programme raises public awareness of the importance of reducing visible exhaust emissions. It promotes the need for all motorists to regularly service their vehicles, whether or not exhaust emissions are visible.

3.4 Implementation of the National Greenhouse Strategy

South Australia and the Council of Australian Governments (COAG) have endorsed the National Greenhouse Strategy. Action Plans to implement the strategy are being developed by all States and Territories, with South Australia already implementing some aspects. An implementation working group, chaired by the Commonwealth, is coordinating action plans between the States, Territories and relevant Ministerial Councils.

The South Australian Government has committed to a Government Greenhouse Gas Target Programme in which all agencies are required to achieve those targets. All agencies are to report annually on their progress in achieving those targets. A target has been set by DEHAA to reduce greenhouse gas emissions by 200 tonnes per year, which would result in an energy cost saving of about \$32,000 per annum.

South Australia has contributed to the production of the National Greenhouse Gas Inventory and to the State Inventories. Inventories for 1990 and 1995, as required by the United Nations Framework Convention on Climate Change, were finalised and published in August 1998.

The EPA has joined the Motor Trades Association of South Australia (MTA) and the South Australian Employers' Chamber of Commerce and Industry (SAECCI) in preparing a successful application for selection as a Greenhouse Challenge Partner, and is assisting the MTA and SAECCI in implementing the programme. This is part of the Greenhouse Allies programme, which is extending the successful Greenhouse Challenge programme to small business enabling cost savings as well as greenhouse gas reductions to be achieved by those businesses.

In future years it is proposed to utilise the experience gained with the motor trades for other industry associations. Energy (and hence greenhouse gas emissions) reductions are being achieved widely in smaller businesses through the EPA's Pollution Prevention Programme. These are Commonwealth Government programmes undertaken with support from the State EPAs.

Internationally, at the fourth Conference of the Parties to the United Nations Framework Convention on Climate Change at Buenos Aires, an action plan was agreed to ensure the Kyoto Protocol could be brought into force in the year 2000. Of interest to South Australia is a requirement to finalise mechanisms for greenhouse gas emissions within two years.

3.5 Ozone Protection

The EPA granted 1317 ozone exemptions in 1998-99.

Up to 30 June 1999, South Australia had deposited 177 tonnes of ozone-depleting halons with the Halon Bank. Nationally 1,830 tonnes have been deposited with the bank and approximately 1,013 tonnes of this have been destroyed.

Methyl bromide phase-out has been accelerated and it will now be banned in 2005; there is a progressive reduction in supply beginning with 25% in 1999, 50% 2001 and 70% in 2003.

Australia was presented with a certificate of appreciation for its contribution to international efforts to protect the ozone layer at the last Montreal Protocol meeting.

The ozone layer, however, is still in a vulnerable state. The size of the ozone hole over Antarctica has been 20-26 million square kilometres in the last few years, about double the size of Europe.

The gradual recovery of the ozone layer will only occur with the continued commitment of governments, individuals, industries in developing countries, and the countries of Central and Eastern Europe and the Russian Federation.

4.0 WATER QUALITY PROTECTION

4.1 Integrated Water Monitoring Programme

The State Water Monitoring coordinating committee chaired by the EPA was established in October 1998. A document detailing the roles, responsibilities and framework for water monitoring in South Australia was completed, as was the establishment of a Water Incident Reporting Protocol for water incidents in the State.

The committee will continue to work on coordinating, developing and reviewing water monitoring programmes across South Australia.

4.1.1 Ambient Water Quality Monitoring Programme

The EPA, with support from other agencies in the State, undertakes ambient water quality monitoring of water bodies in South Australia.

Monitoring covers Lake Alexandrina and Lake Albert, the River Murray, a number of the more significant rivers and streams and the Blue Lake at Mount Gambier. Groundwater supplies are also monitored in the South East as well as the Northern Adelaide and Willunga aquifers, and marine waters such as the Port River, metropolitan bathing waters, and Boston Bay at Pt Lincoln.

The purpose of the programme is to provide data on water quality for the State Water Plan and *State of Environment* reports. Assessment is made on whether water quality of some of the State's important water bodies is changing over time, and to obtain data to assess the long-term ecologically sustainable development of our water resources.

Reports have been released assessing the results of the monitoring programmes of the Port River, the metropolitan bathing waters, rivers and streams, Lake Alexandrina and Lake Albert, and changes in seagrass coverage.

Data from the ambient water quality monitoring programme are held in the Environmental Data Management System. It is proposed that this data, together with reports assessing the data, will be provided to the general public via the World Wide Web.

4.2 Partnerships with Catchment Water Management Boards

The EPA is working in partnership with Catchment Water Management Boards to improve industry and community awareness of stormwater and catchment management issues. The EPA has developed Stormwater Codes of Practice to protect water quality. These apply to the general community, industrial, retail and commercial premises, State, Federal and local government, and the building and construction industry.

Funding from the Torrens and Patawalonga Water Catchment Boards has enabled the appointment of two enforcement officers who are based at the Environment Protection Agency office. The officers have been able to focus on addressing complaints and bad practice in relation to stormwater management.

4.3 Pollution of Dawesley Creek

The Brukunga mine is located in the Mount Lofty Ranges adjacent to the township of Brukunga north of Nairne. The mine, which was owned by Nairne Pyrites Pty Ltd, commenced operation in 1955 and ceased in 1972. The mining lease expired in 1974 and in 1977 the State Government accepted responsibility for the mine site. The residual sulphides in the quarry, waste rock dumps, and tailings dam are actively oxidising resulting in acid production and the release of acid drainage water and heavy metals into Dawesley Creek.

Since the mine closure a number of rehabilitation and pollution control works have been implemented. These include the installation of an acid neutralisation plant; seepage collection sumps and pump back system; and coverage and revegetation of the tailings dam area. The acid neutralisation plant has been successful in treating approximately 25% of the acidic seepage from the site. Despite these efforts there is still substantial acid seepage from the tailings dam area and much of the rest of the site has yet to be rehabilitated. The Department of Primary Industries and Resources (PIRSA) is now licensed to manage the site although it has had responsibility for the day-to-day operation of the site since the beginning of 1998.

Water quality monitoring shows that heavy metal concentrations are above acceptable levels well downstream of the mine site. Of particular concern are cadmium concentrations which are above national guidelines for potable and agricultural (irrigation and stock watering) use of the water.

Cadmium is a significant environmental toxicant and can also lead to serious health problems for humans and stock. Cadmium concentrations are elevated as far downstream as the junction with the Mt Barker Creek (approx 25 km). Concentrations of other heavy metals (aluminium, iron, copper, nickel and zinc) are also elevated at sites well downstream of the mine site.

The water in Dawesley Creek downstream of the mine site is used for irrigation and stock watering including dairy and beef cattle. The SA Health Commission advised that signs should be placed along Dawesley Creek notifying people that the water is polluted and not fit for irrigation, stock, drinking or recreational use.

The EPA supports this position and has instructed the operators of the site, the Department of Primary Industries and Resources to:

- develop and implement an Environment Improvement Programme for the mine
- place signs in the Brukunga town and at regular points along the creek downstream of the mine site to the junction with the Mt Barker Creek advising that the water is polluted and unsuitable for irrigation, stock watering, drinking water and recreational use
- place notices in local and State-wide newspapers to similar effect
- write to all landowners with properties adjacent to the creek advising them of the pollution and restrictions on using the water.

The Department of Primary Industries and Resources has complied with this instruction and has continued to work closely with the EPA to rehabilitate the site.

4.3.1 Bird In Hand Wastewater Treatment Plant (WWTP)

For most of the year treated wastewater from the WWTP's final lagoon number 10 discharges into a local creek whose flow finds its way into the Dawesley Creek.

The objective of the EIP is to improve the environmental performance of the WWTP by requiring SA Water to investigate and implement irrigation schemes, or other land-based disposal activities, to eventually achieve maximum practical reuse of treated wastewater.

4.3.2 Brukunga Septic Tank Effluent Disposal Scheme (STEDS) Oxidation Ditch

The township is serviced by individual household septic tanks, which are connected to an oxidation ditch, which discharges into the Dawesley Creek. The Mount Barker Council has been contacted by the EPA in regard to the state of the ditch which is overloaded, odorous and in need of upgrading.

Mt Barker Council was advised in mid-1998 that, if the practice continued, action would be taken by the EPA to reduce the environmental harm, by either issuing a clean up or environmental protection order. Council was requested to provide details of a works programme for the various options it was considering, to comply with the above.

Council advised the EPA that the proposal was to pump septic tank effluent from the Brukunga STEDS to Mount Barker STEDS via Nairne, by the construction of a new pumping station and rising main. Completion of this work would be in April 2000.

4.4 Bolivar Wastewater Treatment Plant (WWTP)

4.4.1 Environment Improvement Programme

The large-scale effect of the odour nuisance in 1997 from the Bolivar WWTP resulted in extensive negotiations between the EPA and SA Water to institute an Environment Improvement Programme (EIP) for the facility. As part of the EIP, extensive documentation has been developed by United Water, to ensure that a repeat of this incident and other possible environmental incidents are minimised. Early in 1999 a presentation was made to the EPA jointly by United Water and SA Water on the Quality Assurance and Environmental Management Systems (EMS) that have been developed.

The EIP will ensure that a repeat of the above odour is unlikely or that the continuance of the existing odour at the plant is reduced to a minimum. The upgrading package agreed between the EPA and SA Water for Bolivar amounts to \$113 million.

In April 1998 SA Water executed agreement with Water Reticulation Systems (Virginia) and the Virginia Irrigation Association for the construction and future operation of the Virginia Pipeline Scheme (VPS) which distributes Class A effluent water to the VPS. The Dissolved Air Flotation Filtration (DAFF) plant was commissioned in November 1998 to supply treated water to the VPS. The first stage of the \$22 million VPS was completed in March 1999 with subsequent stages scheduled for completion in September 1999.

The commitment of substantial resources by SA Water to improving its environmental performance is a good example of the EPA achieving compliance with the Act through negotiation and consultation wherever possible. The EPA strongly believes that this strategy will ensure the best outcomes for the environment.

4.5 Heathfield Wastewater Treatment Plant (WWTP)

EPA investigations of the macroinvertebrate population in the Sturt Creek confirm that effluent discharge into the creek is having some adverse effects. The investigations suggest that the creek could not tolerate an increase in loading and therefore the EPA has directed SA Water not to increase the loading to the creek.

The EPA has directed SA Water to investigate options for upgrading this facility.

Options being investigated include diversion to Christies Beach WWTP and nutrient removal. Further investigations are being carried out to determine more accurately what impact effluent from the Wastewater Treatment Plant is having on the creek. In addition the investigations will compare the relative impact of the treatment plant effluent with other sources of nutrient including runoff from agricultural land.

At this time there is no evidence of significant environmental harm caused by the treatment plant effluent.

The Cooperative Research Centre for Freshwater Ecology report commissioned by the Patawalonga Catchment Water Management Board has identified Heathfield WWTP as a major source of phosphorous in the catchment and that ammonia discharges from the plant are excessive. Discussions held between the EPA, SA Water and the Patawalonga Catchment Management Board have generally agreed with the conclusions of the report and final design parameters for the upgraded plant are being discussed.

4.6 Frog Census

The Frog Census is a community survey of frogs throughout South Australia, initiated and coordinated by the EPA.

The aims of the Frog Census are to:

- increase public awareness of the health of South Australian streams and rivers, particularly the River Torrens, Sturt River and River Murray
- encourage public involvement in monitoring the water quality of our rivers, streams and wetlands
- assess the current and long-term health of the State's rivers, streams and wetlands
- assess the impact of the EPA policies on water quality in this State.

The Frog Census provides a 'snapshot' of the distribution and abundance of frogs in South Australia, based upon the collection of frog recordings from as many different locations as possible over a one-week period.

4.6.1 Frogs recorded

The distribution of recordings in 1998-99 was similar to previous years, with sites concentrated around the Adelaide metropolitan area and the South East. However, the range of recordings extended from as far north as Pandie Pandie Station in the extreme North East, south to Port MacDonnell near the Mount Gambier area, east to a site near Paringa, and west as far as Agnes Creek near the border between South Australia and the Northern Territory.

The 1998 Frog Census recorded the greatest diversity of species so far with 19 of the 28 frog species found in South Australia being taped. The highest number of species recorded from any location was seven from the River Murray downstream of Purnong Landing.

The Common Froglet was the most commonly recorded species, representing 41.4% of the total number of frogs recorded. The next most common species were the Brown Tree Frog with 17.4%, Spotted Grass Frog with 16.1%, and Eastern Banjo Frog with 14.4%. This is similar to previous years.

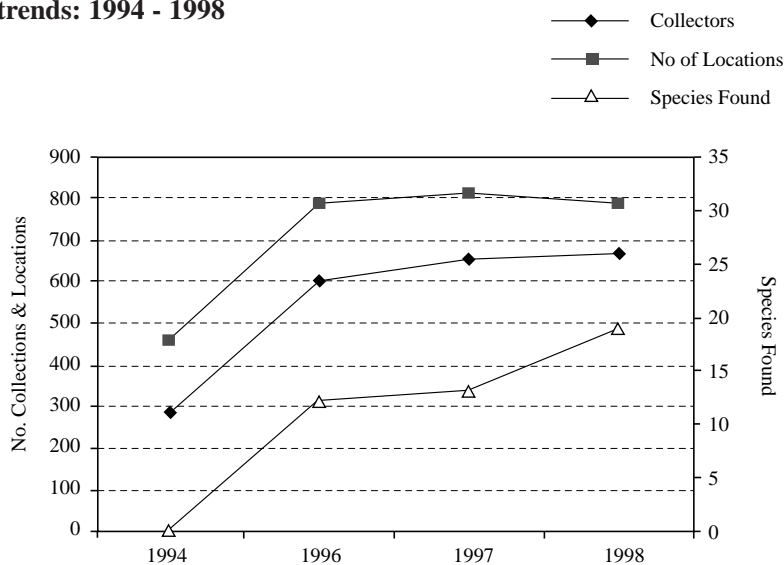
Species which were recorded at low frequencies included: the Water Holding Frog, Green Tree Frog, Peron's Tree Frog, Southern Bell Frog, Red Tree Frog, Eastern Sign Bearing Froglet, Streambank Froglet, Long Thumbed Frog, Brown Striped Marsh Frog, Spencer's Frog, Trilling Frog, Painted Frog, Sudell's Frog, Shoemaker Frog, and Bibron's Toadlet.

The only species not recorded in 1998, which had previously been recorded in the Frog Census, was the Southern Toadlet.

4.6.2 Observer participation

The Frog Census has grown considerably since its inception in 1994, with a total of 669 participants taking part in 1998. They recorded frogs from 790 locations.

Frog census trends: 1994 - 1998



5.0 MARINE ENVIRONMENT

5.1 Adelaide Coastal Waters Study

The coastal waters and ecosystem off Adelaide have been severely impacted by industrial, sewage, and stormwater discharges. This has resulted in extensive loss of seagrass (at least 4000 hectares of seagrass lost over the last 30 years), increases in sand movement, degradation of reef systems, algal blooms, and poorer water quality.

On-ground works, including major upgrades to sewage treatment works, significant catchment improvement works, educational and awareness programmes, installation of large wetlands to treat stormwater, and industry based environmental improvement programmes, are being implemented to address these problems. The total cost of these on-ground works is in excess of \$200 million.

The EPA, with support from other government agencies, industry, and the Catchment Water Management Boards, is proposing to undertake a detailed integrated study of the Adelaide coastal waters system. The purpose of the study will be to provide a sound basis for the sustainable ongoing management of the area and to ensure that the monies being spent on on-ground works provide the optimum benefit to the ecosystem.

The study will cost approximately \$3.5 million over three to four years. Funding of \$2.1 million has been pledged by key stakeholders in South Australia.

5.2 Protecting the Port Waterways

A strategy to protect and restore the waters of the Port River, West Lakes, North Arm and Barker Inlet was developed by the EPA and released by the Minister in March 1999.

The North West Region of Adelaide encompasses the cities of Port Adelaide Enfield, Charles Sturt and Prospect. It is typified by intensive industrial and commercial landuse. This is in contrast with the area's unique ecological system of coastal estuaries, wetlands and rivers.

The Port waterways, which include West Lakes, the Port River, North Arm, and Angas and Barker Inlets, are important to many South Australians. They support a variety of uses including water sports, fishing, different industries, shipping and numerous other activities. They also support significant aquatic ecosystems, are home to more than 30 dolphins, and are a haven for migratory birds and other animals.

Approximately 50% of metropolitan Adelaide's industry are located in this region, including tanneries, foundries, refineries and many small manufacturing and maintenance businesses.

After allowing all our wastewater to run into the Port waterways for over 100 years, we are learning to value the beauty and variety of these waterways and the diversity of marine life that they support, as well as the opportunities for education, recreation and commercial activity. The importance of the industrial and business sectors to this State are recognised, and the relationship between development and environmental management

is now being addressed. The North West of Adelaide is a region where there is the potential, if care is not taken, for environmental, economic and social interests to clash. These interests can be managed in a sustainable manner through an integrated catchment management approach.

Integrated catchment management recognises that everyone is part of the problem and therefore everyone is part of the solution. Through a solid commitment and the coordinated efforts of government, industry and the community, it will be possible to restore the Port waterways to a clean, and healthy environment which supports diverse ecosystems and wildlife and enhances a wide range of recreational and business activities. However, this will not be an easy task.

Removing the historic accumulation of pollutants from the river bed, mud banks and mangrove forests of the Port waterways may take many years. The EPA requires major industry discharging to the Port waterways to develop environmental improvement programmes to meet stringent water quality discharge requirements by the year 2001. The new pipeline to take Class A treated effluent from the Bolivar waste water treatment plant to the vegetable growing region of Virginia, instead of discharging it to the sea, is one example of such a programme.

5.3 Impacts on the Environment from Shipping

The EPA established this sub-committee mainly to implement in South Australia the initiatives being developed in the ANZECC strategy 'Working together to reduce impacts from shipping operations' —known widely as the 'Seagull Report'. The sub-committee comprised:

Mr Bob McLennan	Environment Protection Agency —Chair
Mr Ian Kirkegaard	Environment Policy Division —Secretary
Mr Vic Neverauskas	PIRSA Fisheries
Mr Damian Moroney	Local Government Association
Mr Peter Richards	Aust. Quarantine Inspection Service
Captain Philip Hammond	Ports Corp
Ms Stevie Austin	Department of Premier and Cabinet
Dr E J Maynard	SA Health Commission
Captain Walter Stuart	Department of Transport, Marine Safety
Mr Tony Flaherty	Conservation Council.

The sub-committee was given a 'sunset' date —the end of 1998. At its ninth meeting on 4 December 1998, members concluded that it had satisfied their terms of reference, and provided a report against those terms. Following is a summary of the outcomes of the work of the EPA sub-committee.

5.3.1 Action on terms of reference

1. Prepare management plans for port reception facilities for oil wastes, noxious chemicals and garbage, as defined in the MARPOL convention.

The EPA recommended the 'Best Practice Guidelines for Waste Reception Facilities' to the Minister. Following endorsement by ANZECC, the EPA introduced the guidelines as a condition of licence for ports and similar licensed activities in South Australia. Activities such as bulk shipping facilities and marinas now have a document to show what best practice might be. Their performance can be audited against these guidelines.

2. Outline a programme to deal with other annexes to MARPOL —such as sewage.

A Bill for an Act to be called *Protection of Marine Waters (Prevention of Pollution from Ships) Act* passed all stages in the SA Parliament by September 1998. It will replace the current *Pollution of Waters by Oil and Noxious Substances Act 1987* (which is cross referenced to the Environment Protection (Marine) Policy 1994) to bring the State legislation up to date with all active annexes of MARPOL.

Those annexes cover:

- Annex I oil—ratified from 2/10/1983
- Annex II noxious liquid substances—ratified from 6/4/1987
- Annex III harmful packaged substances—ratified from 1/7/1992
- Annex V garbage—ratified from 31/12/1988.

Following discussion within sub-committee, and with other interests in MAPIG, South Australia did not proceed with Annex IV on sewage, because that is unlikely to receive sufficient signatures internationally to be ratified in its present form, which means that it could take several more years to bring an Annex into international law.

The effects of the annexes that are in place will be to prohibit virtually all discharge of garbage, dunnage and other wastes produced during normal operations of ships, in the major gulfs. The compliance programme includes record keeping, with ships having to account for garbage which authorities would expect them to have generated during operations. Goods which may be hazardous, even in packaged forms, will be carried and handled in the gulfs in conformity with practices set out in the new annex, to further reduce risk of spillage to these waters.

3. Advise on waters of South Australia, which could be nominated as sensitive to impacts of shipping, and practical measures that could be applied to minimise such impacts.

Australian Marine Consultants Pty Ltd has prepared the final draft of 'Communicating with the maritime industry about sea areas sensitive to shipping and boating operations in Australia'. The sub-committee provided South Australian input to this study (South Australia actually hosted the first National Working Group meeting, in August 1997).

The report includes recommendations on processes for listing and de-listing areas for international recognition as MEHRAs (marine environment high risk areas) and for setting out the extra considerations that should apply to shipping operations in each area. International recognition requires nomination by a national government, but makes the provisions applicable to all shipping. The report suggests criteria for recognising MEHRAs, which are consistent with international practice, but take up Australian needs, particularly to integrate with the rest of the 'Seagull' initiatives, the National Representative System for Marine Protected Areas, and Australia's Oceans Policy. South Australia nominated the two major gulfs for consideration, and they qualify for recognition against these criteria. The report includes suggestions on the most effective ways to communicate with shipping to reduce risks to MEHRAs.

4. Advise on action to reduce litter at sea.

South Australia has taken up several parts of the 'Seagull' programme, after Tasmania withdrew from active involvement. This has included publishing the major Australian reports (which have steady demand internationally) and the free executive summaries of the work on marine debris. The final stage of the programme will be to seek a consultancy to design a system to receive and process information on debris around Australia.

Within the State, the *Protection of Marine Waters (Prevention of Pollution from Ships)* Act will become the major control on litter or debris from ships and boats. The 'Seagull' programme has shown that much of the litter at sea and on beaches is from land sources. Improved catchment management is expected to reduce this source significantly.

5. Determine priority ports in South Australia and prepare plans to manage ballast in those ports, consistent with national ballast management guidelines.

The EPA accepted the sub-committee's recommendation to adopt the Australian Coastal Voyage Ballast Water Guidelines in South Australia. South Australia joined Victoria and Tasmania in the 'Three-ports study' which started in November 1998. The objective was to test the practical application of the guidelines. Field work has been completed, and procedures were developed early in 1999. The procedures aim for simple and direct communication, with quick decisions on whether, and under what conditions, an incoming vessel could discharge and take up ballast in any Australian port.

The significance of this work is that the International Maritime Organisation (IMO) expects to have an international instrument on ballast management open for ratification in year 2000. From the time when that becomes effective, ports will be given ratings for risk of being a source of pests in ballast. Ports that do not have management plans in place will carry a high risk rating, which may have implications for trade into and out of that port.

South Australia participated in the 'Three-ports study' with the strong practical support of the sub-committee and its member agencies. Port operators in South Australia have also been attempting to integrate the requirements of ballast management into the environment improvement plans required under their EPA licence.

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- 6. Adapt the national draft Code of Practice on application, use, removal and disposal of anti-fouling preparations and hull fouling material; and**
 - 7. Advise on a State system for registering anti-fouling preparations, and for promoting environmentally benign methods for anti-fouling.**

The draft Code of Practice and a national Scheme for Registration have been accepted by MAPIG and will be recommended to ANZECC. On the advice of the sub-committee, EPA recommended from its November 1998 meeting that the Minister in South Australia support both documents when they are considered by ANZECC.

The Scheme for Registration has been negotiated with the National Registration Authority. If implemented at that level it would establish nationally consistent forms for registration, obviating need for separate registration in South Australia.

Several states, in considering application of the Code of Practice in their jurisdiction, have added restrictions on cleaning hulls in water, based on the provisions applied by the Victorian Channels Authority. While existing licensing arrangements in South Australia restrict hull cleaning in water to about the same extent, a version of the wording used in other jurisdictions may be added to the Code of Practice for uniformity, and to make clear what activities may be carried out and under what conditions.

Management of Tributyltin (TBT)—the antifoulant with significant non-target effects—will be resolved in the international forum of IMO. Expectation is of a ban on further use in the marine environment from 2006.

- 8. Review the experience of dredging under the Environment Protection (Marine) Policy, and advise on amendments that would improve its environmental performance; and**
- 9. Advise on legislation to complement the Environment Protection (Sea Dumping) Act 1984 within the limits of South Australia, and otherwise to give effect to the London Convention and national guidelines.**

The sub-committee accepted all the major conclusions and recommendations of the review on dredging and the EPA directed that they be incorporated into the Environment Protection Policy. The sub-committee examined the guidelines that had been drafted for a task group of ANZECC on assessing dredged material for dumping at sea. The first draft was available early in 1997.

The sub-committee considered that it would be useful to adopt the concept of a screening level and a maximum level for concentrations of target contaminants. This was consistent with the principles of the national water quality management strategy, which was the basis of the criterion values already in the South Australian marine policy. The sub-committee did not accept a further principle of assessing spoil as contaminated if it contained more than some multiple of the background level at the receival site. Although it was a secondary consideration, members also thought the actual multiples chosen were unrealistic and statistically invalid in practice.

The draft also contained extensive sections on statistics and sample design. The sub-committee suggested that these might be available as guidelines but they were unsuitable to be incorporated into a policy under the South Australian legislation.

The EPA endorsed these recommendations to the Minister.

The sub-committee considered that it had covered these terms of reference. The department would manage amendments to the sea dumping act and incorporate relevant parts of these documents into the Environment Protection (Water Quality) Policy .

10. Advise whether dumping into these waters should continue, and, if so, under what conditions.

The sub-committee has nominated a small task group, which could continue to deal with the other dumping issues, such as burial at sea, and artificial reefs.

The Task group comprises:

Mr Kirkegaard	DEHAA
Mr Neverauskas	PIRSA
Captain Stuart	Department of Transport—Marine Safety
Dr Simon	SA Health Commission.

It would provide advice across agencies on specific issues, such as areas suitable for burial at sea, and individual applications to establish artificial reefs, after the legislation had commenced in South Australia.

The policy position on artificial reefs—the circumstances in which a reef might be approved—would follow the recommendations of the twenty-sixth report of the Environment, Resources and Development Committee of the Parliament, on ‘Establishment of Artificial Reefs’. That report was ordered to be printed on 19 February 1998.

The sub-committee has been highly effective in its work and other jurisdictions have commended the extent of cooperation between agencies in South Australia, in implementing the ‘Seagull’ strategy. The structure—involving agencies with direct legislative responsibility, plus the peak conservation body and the office of Premier and Cabinet—appears to have contributed to its effectiveness.

5.4 Land Based Disposal of Waste Dredged from the Port River

Penrice Soda Products has, for the last 35 years, legally used the Port River for disposal of waste from the final stage of its soda ash production at Osborne. A large pocket was dredged in the river many years ago to allow solids to accumulate in a way that does not interrupt shipping. This practice is now generally considered unacceptable and alternative arrangements are required.

Periodically, every two to three years, this pocket has been cleared by dredging, with the spoil dumped at sea on the spoil ground north west of Outer Harbour. Penrice is currently taking steps to improve substantially the quality of its discharges to the marine environment in order to meet the requirements of the Marine Environment Protection Policy.

EPA negotiations with Penrice to develop an alternative to the practice of dumping into the river with subsequent dredging have assisted the company to develop a land based disposal option.

Land Management Corporation has identified a low lying section of land in Gillman which requires filling to enable future industrial development. The company has sought development approval for a series of ponds to settle out dredgings. The residual solids will be treated to ensure that they meet the geotechnical requirements for light industry. The Land Management Corporation has employed an environmental auditor who will oversee the operation to ensure that the land can be used for the proposed purpose. The management of dredged material is to be controlled through an independent environmental auditor employed by the Land Management Corporation.

Penrice has undertaken trials to test the effectiveness of dewatering dredgings in settling ponds adjacent to its plant site. Discharge from the ponds has been in compliance with the Marine Policy. These ponds are to be used for a short period again due to an urgent need to remove material from the Port River shipping channel.

5.5 Boston Bay Survey

The EPA, in conjunction with the Ports Corporation, has commenced water quality monitoring of Boston Bay at Port Lincoln. This has arisen from questions raised on the possible impacts of the fishing industry and fish processing. The programme involves taking monthly samples from five sites. Analyses include nutrients, turbidity, chlorophyll and microbiological indicators of faecal contamination.

Assessment of the data in this region will be undertaken during 2000-01.

5.6 Port Lincoln 'Improving Water Quality through Sustainable Reuse' Project

At the last round of the Pollution Prevention Fund that concluded on 25 September 1998, the selection committee received applications from two fish and one meat processing facility in Port Lincoln to undertake cleaner production studies of its operations. In the assessment of these applications, the selection committee considered that given the significant environmental issues associated with the direct discharge of effluent into Proper Bay that a more holistic solution was required. Significantly, one of the companies that did not apply to the Pollution Prevention Fund discharges as much effluent to Proper Bay as all the other companies combined. Consequently, the selection committee rejected the applications received and resolved to investigate alternative options for providing assistance.

Coincidentally, in September 1998 the City of Port Lincoln was advised that it had been successful in its application for a \$1.8 million grant under the Coast and Clean Seas Programme. The principal focus of the project is to improve water quality of the city through sustainable reuse by investigating a range of options. The selection committee believed that it could provide a timely and valuable contribution to the project by commissioning a study to look at minimising the pollution loading and quantity of effluent discharged into Proper Bay. Improving the quality of effluent would provide many more opportunities for reuse than currently exist and also meet the EPA's objective of implementing cleaner production practices in Port Lincoln. As a result, the committee has supported the Flinders University of South Australia to conduct waste minimisation

audits of nine fish and meat processors operating in Port Lincoln. The Flinders University is a co-partner with the EPA in this project and possesses the expertise, personnel and monitoring equipment required to undertake the study. The objectives of the waste minimisation audits to be conducted at each of the industrial facilities accessed are as follows:

- conduct an audit of activities leading to wastewater generation
- identify other activities leading to significant environmental emissions
- identify any training requirements
- identify opportunities to minimise waste
- identify options for recycling
- determine the likely environmental and subsequent likely cost savings to be derived from recommendations implemented as a result of the audit
- determine the potential environmental and economic benefits of recommendations to be implemented as a result of the audit.

The signing of the contracts between the Flinders University and the EPA has been completed and the project should be complete late in 2000.

6.0 NOISE CONTROL

Noise, which can be defined as unwanted sound, can cause a range of health problems including hypertension and loss of sleep. In addition, excessive noise can cause loss of amenity and environmental harm.

Excessive environmental noise can emanate from a range of sources, not all of which are regulated by the EPA. Some noise sources, such as motor vehicles on public roads and aircraft noise are subject to controls under other jurisdictions.

The EPA administers two noise control policies.

The Industrial Noise Policy is used where premises have a diverse range of noise sources, such as a typical large factory, and the Machine Noise Policy is used to regulate individual machines such as refrigeration compressors.

The Machine Noise Policy is mandatory and means that operators of machines (including domestic air conditioners) must take all reasonable and practicable measures to prevent or minimise any environmental harm. Properly maintained and operated machines will generally satisfy this requirement. South Australia is the only State in Australia where the control of noise from domestic appliances is not administered by local government. Local government is, however, becoming more active in this area and has recently developed guidelines for the control of nuisance noise from gas guns.

The Industrial Noise Policy is non-mandatory and provides guidance to industry. However, compliance with the policy can be required if an Environment Protection Order is served.

6.1 Domestic noise

In 1998-99 the EPA received 787 noise complaints and provided advice on 1620 noise issues, the majority of which involved excessive noise coming from domestic premises. To manage the rise in domestic noise complaints, negotiations have commenced with local government to introduce administration of these complaints at the local level.

An internal EPA workshop was held in October 1998 to define the purpose, scope and participants of an EPA/Local Government Partnership Demonstration Scheme. The councils of Port Adelaide Enfield, Onkaparinga, Adelaide City and Adelaide Hills have indicated willingness to participate.

The EPA Local Government Liaison Officer developed details of the programme in consultation with the councils mentioned and a draft timetable for implementation. The senior noise adviser, Strategy Branch has developed an intensive noise measurement course suitable for training local government staff.

Following a successful trial presentation using EPA field staff in 1999, the course will be offered to local government officers to suit the overall programme timetable.

6.2 Vehicle noise assessment campaign with SAPOL

The EPA has conducted a series of vehicle noise assessment campaigns in conjunction with the SA Police (SAPOL) since 1996. Availability of SAPOL resources is the determining factor in the ongoing programme, as only SAPOL officers have the necessary authority to detain vehicles. The programme is therefore set at approximately four campaigns per year.

In conjunction with the environment protection officers in Operations Branch of EPA, SAPOL has held five campaigns since July 1998. Two campaigns tested heavy vehicles at Port Augusta and Monteith, and three were located in the city area to deal with passenger and light vehicles.

6.3 Noise Control Issues

6.3.1 Audible Bird Scarers

Audible bird scarers have been of increasing concern to the community in recent years due largely to the expansion of vineyards into areas previously used for other agricultural purposes. They are used in an attempt to protect fruit (and, sometimes, other crops) from damage by feeding birds. In areas such as the Adelaide Hills, the previously compatible mixture of residential and rural activities is now in conflict.

Audible bird scarers take a number of forms including electronic devices emitting screeches and warbles, recordings of bird distress calls, and gas guns. Gas guns are the most common form of audible bird scarer. They consist of a tube into which acetylene or LPG is allowed to bleed, and an ignition device activated by a timer. When the gas ignites it causes a loud report (the loudness is dependent in part on the amount of gas in the tube) which is intended to startle feeding birds and drive them away from the fruit crop.

The Environment Protection (Machine Noise) Policy 1994 prescribes a maximum noise level for gas guns used between 7am and 8pm, of 45dB(A) measured at any affected residence. However, noise from a gas gun can exceed this level at distances of up to 1000 metres, meaning that under most circumstances the policy prevents the use of gas guns at night.

Gas guns are of limited effectiveness when used on their own. Some bird species quickly become habituated to the noise and can be seen feeding immediately after the gun fires. It is obvious, also, that a hungry bird will make a decision to risk whatever danger the noise implies rather than starve to death.

While audible bird scarers are used in many districts including the Riverland, McLaren Vale, Barossa and Adelaide Hills, the latter is the most common source of complaint. Part of the reason for the varying response to the noise, is the differing expectations of residents in the various areas.

It is clear that the relationship between the cost to the community of the use of bird scarers and the benefit to the economy varies considerably from region to region. A single State Government control on the use of audible bird scarers could not properly reflect this variation. Accordingly, local councils have been encouraged to put in place controls tailored to local needs. Several councils have addressed the problem of nuisance from noisy bird scarers through the adoption of guidelines or by-laws. The EPA has acted as a consultant to some of the councils in the development of this approach.

6.3.2 Frost Fans

The EPA has received many requests for advice from local councils regarding the use of frost fans. Frost fans are used to protect crops from frost damage. Unfortunately frost fans also produce a significant amount of noise which at times may adversely affect nearby residents. The EPA is preparing a technical bulletin aimed at councils to assist them in evaluating the noise impacts of frost fans.

7.0 WASTE MANAGEMENT AND THE PROMOTION OF POLLUTION PREVENTION

7.1 Overview

Two major environmental objectives of the Government and the EPA are to establish a best-practice waste management system and to promote pollution prevention in industry and the community.

The Integrated Waste Management Strategy for Metropolitan Adelaide is a series of objectives for the management of waste over the next two decades, supported by programmes geared to meet these objectives. A key action was the development of a Strategic Plan for waste management infrastructure, including waste transfer, resource recovery and disposal. The Waste Infrastructure Steering Committee completed its final report in September 1998.

Other elements of the strategy include:

- an upgrading of conditions of licence relating to the waste industry
- the substantial upgrade of the Environment Protection Policy relating to waste management, the enhancement of the Pollution Prevention Programme
- involvement in the development of a National Environment Protection Measure for the transport of controlled waste across jurisdictional boundaries.

The Integrated Waste Strategy for Metropolitan Adelaide recognised that landfill will continue to be a major destination for solid waste in the foreseeable future, even though methods of waste minimisation and recycling will most likely continue to improve. Accordingly, the EPA has released guidelines for major solid waste landfills, which will be used when commenting on development applications for landfills and also licence conditions.

In general, operating standards at metropolitan landfills have been poor when compared to best practice and this has contributed to the very strong public opposition that exists against new proposals. In the past few years, because of action by the EPA, a number of badly sited landfills have closed, with others upgrading their performance. Conditions of licence for landfills are currently being upgraded following a review of their enforceability to enable this upgrade in performance.

An Environment Protection Policy, which specifically addresses the issue of landfill gas, is currently being developed. Landfill gas, which arises from the breakdown of biodegradable materials can present an explosive risk to the public. The policy will address the issue of existing and decommissioned landfill sites.

The EPA and DTUPA have identified two potential sites for the treatment of green organic waste. A consultant has been engaged to prepare a Concept Plan for Organic Waste Precincts. The EPA has developed draft guidelines for the siting of green waste processing and composting sites. Three metropolitan councils have introduced kerbside green waste collections with two more indicating they will begin collections before December 1998.

Two major environmental objectives of the Government and the EPA are to establish a best-practice waste management system and to promote pollution prevention in industry and the community.

The Pollution Prevention Fund (PPF), which combined the Cleaner Industries Demonstration Scheme, launched in 1994, and the Recycling and Resource Recovery Scheme, provided a single avenue for South Australian businesses to apply for financial assistance for cleaner production and recycling projects. An independent review of the PPF has revealed a conservatively estimated benefit/cost ratio of 36.3. The review examines 40 funded projects that were supplied with a total of \$1,154,000 since 1994. It reveals estimated annual benefits to industry and the environment of \$2,065,000 (value added) and the generation of 94 jobs.

The PPF has provided a significant reduction in the amount of pollution and waste produced by the companies who have received funding. The review revealed the following quantifiable environmental outcomes (specific per annum unit savings):

Water	- 98,000 kilolitres (kl)
Electricity	- 1,005,000 kilowatt hours (kwh)
Gas	- 489,000 megajoules (mj)
Chemicals	- 54,000 litres
Tyres	- 500 tonnes
Plastic	- 8 tonnes
Sand (foundry)	- 2,000 tonnes.

The Small Business Pollution Prevention Project (SBPPP) commenced in March 1996 and was expanded this financial year with the employment of two officers who will target small to medium businesses that are not necessarily licensed by the EPA. Participants attend a series of workshops where they are introduced to pollution prevention and cleaner production methodologies that can be applied to their own business. These methodologies assist them to identify environmental improvements and how to demonstrate associated cost savings.

Resources have been allocated to the Small Business Pollution Prevention Project for a guaranteed period of two years from 1 July 1998 to 30 June 2000. Two officers have been employed to conduct this project which targets small to medium businesses that are not necessarily licensed by the EPA. Participants attend a series of workshops where they are introduced to pollution prevention and cleaner production methodologies that can be applied to their own business. These methodologies assist them to identify environmental improvements and to demonstrate associated cost savings. In the 1998-99 financial year a total of 145 people representing 110 businesses attended the workshops. Of those businesses attending 80% have reported a predicted cost benefit from changes made to work practices. It is evident that this responsible Government/EPA initiative is delivering a win-win outcome for small business and the environment.

In February 1997 the EPA and the SA Employers Chamber of Commerce and Industry (SAECCI) signed a Memorandum of Agreement committing the "Employers Chamber to conduct a programme to reduce the

impact of industrial and commercial waste and where appropriate promote the programmes of the EPA." The programme is funded through a percentage of the solid waste levy paid to the EPA by licensed landfill operators. The Chamber employs an environment officer to conduct the programme in cooperation with the EPA. The environment officer provides a very visible pro-active link between government and industry to develop mutually beneficial outcomes in the area of pollution prevention.

The EPA Pollution Prevention Programme is currently being revised to better deliver pollution prevention outcomes. Work is being done to establish major waste and pollution sources. Once this information is gathered it is expected particular pollutants, wastes and industry sectors will be highlighted for focused attention. The data gathered from the landfill-based Waste Survey (Audit), in November/December 1998, will also assist in this task. Options then to be considered include the broadening of funding options, provision of consultancy services, training programmes, industry focused supply chain "greening", development of industry codes of practice and guidelines.

7.2 Review of Waste Management Institutional Arrangements

The review of Recycle 2000 was completed in September 1998. New institutional arrangements were agreed via a Memorandum of Understanding (MOU) on 9 December 1998 between the LGA, SAECCI, EPA and the Minister. The MOU provided for the creation of the Interim Waste Management Committee, as a sub-committee of the EPA. Recycle 2000 ceased operation on 6 December 1998.

The Waste Management Committee will operate until June 2000 (to coincide with end-of financial year 2000) and provide advice to the EPA and the Minister.

The committee's functions will be to:

- take over the roles and functions of the Local Government Recycling and Waste Management Board
- take over the administration and allocation of the assets under the control of the Local Government Recycling and Waste Management Board
- investigate and make recommendations in relation to options for long-term waste management arrangements
- make recommendations in relation to strategic planning for waste management including the identification of objectives and strategies
- advise and make recommendations to the EPA with respect to a new Environment Protection Policy on waste management.

The MOU provides for more certainty and powers of direction over the new body than that afforded by the negotiated agreement with Recycle 2000. The committee structure is different from Recycle 2000 with two nominated by the Minister and two each from the LGA and SAECCI. Whilst not necessarily providing for long-term arrangements, the new committee's major task is to assess the problems and advise on new arrangements.

Consultancies have been let by the Committee to review the rebate system undertaken by Recycle 2000 and to develop a preferred model for longer term arrangements. Another consultancy has been let to identify issues facing local government and industry regarding waste management. Recycle 2000 programmes, which required completion, have been continued, such as the green waste research and development.

The membership of the Waste Management Committee has been drawn from the three stakeholders as follows:

Mr Trevor Fletcher	Deputy President, LGA
Mr John Comrie	Executive Director, LGA
Mr Damien Young	SA Manager Cleanaway
Mr Tony O'Malley	Outlook Management Consultants;
Mr Peter Dolan	Manager Strategy, EPA
Mr Vaughan Levitzke	Manager Waste and Pollution Prevention, EPA.

7.3 Waste Strategy

The Integrated Waste Strategy for Metropolitan Adelaide was launched in 1996 and provided a basis for the future planning of waste management services into the next century. In January 1999, a progress report was developed between Planning SA and the EPA, which highlighted a number of initiatives completed and being undertaken as part of the implementation of the waste strategy. This was a major undertaking and coincided with a number of announcements by the Government regarding waste. Five Cabinet submissions were prepared dealing with waste issues from four different State Government organisations, coordinated through the EPA.

Legislation was drafted with Planning SA to set a degree of certainty over Adelaide City Council's Wingfield landfill site. The legislation was proclaimed in May 1999. This initiative involved significant input from EPA Operations and Strategy branch staff.

The landfill audit was completed in March 1999, and has provided the EPA with valuable data regarding metropolitan Adelaide, and South Australia's waste stream. This was identified in the Waste Strategy as a major need in that it provided data relevant to the South Australian setting. This is the first time such data has been collected in South Australia in such detail. This will prove to be an invaluable resource for Strategy Branch initiatives and operations.

EPA Strategy Branch and EPD have developed a Cabinet submission dealing with weight-based charging at major landfills. This represents a major reform of charging the waste levy and should result in increased revenue to the EPA.

A review of hazardous and liquid wastes generation and disposal, by interrogation of the manifest system, is under way within the EPA.

7.3.1 Waste Audit

In August 1998 the EPA commissioned Waste Audit and Consultancy Services (Aust) Pty Ltd and C. R. Hudson

& Associates Pty Ltd to undertake a disposal-based survey (audit) from selected landfills of commercial/industrial (C/I), building demolition (B/D) and municipal waste in the metropolitan area. The primary aims of this project were to estimate the quantity, source and composition of C/I and B/D wastes entering six nominated landfills.

The information obtained from the audit, once documented and analysed, will assist the EPA in developing policies and procedures for the minimisation, transport and disposal of commercial and industrial wastes.

The project was undertaken from 19 November 1998 through to 9 December 1998. The work included a physical and visual audit at the Adelaide City Council (ACC) Wingfield landfill site, which was selected due to the high percentage of Adelaide's C/I and B/D waste disposed at this landfill. In addition, data were collected via visual auditing from five other landfills—IWS at Wingfield, Lucas at Maslins Beach, Remove all Rubbish at Nuriootpa, Southern Region of Councils (SROC) at Pedler Creek, and Western Region Waste Management Authority at Garden Island.

The waste audit further progresses one of the objectives in the EPA's *Integrated Waste Strategy for Metropolitan Adelaide 1996-2015* released in 1996. The Integrated Strategy recognised that improved data acquisition, the establishment of baseline information through various programmes, including waste audits, and a range of other information gathering measures was essential to facilitate improvements in the management of waste.

The EPA is currently preparing a discussion paper as the forerunner to the proposed introduction of a range of initiatives relating to waste management within South Australia. Foremost among these initiatives is the development of a new Environment Protection (Waste Reduction, Recycling and Disposal) Policy. Other initiatives in waste management will be achieved through complementary processes including amendments to the *Environment Protection Act 1993*, changes to regulations, adoption of national environment protection measures, development of guidelines and codes of practice.

The data provided through the Waste Audit will be an important contribution to the on-going development of reforms in waste management.

The solution to waste management problems should not be based upon one single approach but on an integrated matrix of solutions based upon the principles of reduction (or prevention), reuse, recycling and recovery (material or energy recovery). Although landfill will remain a necessary part of an integrated approach to waste management, final disposal in a landfill site should ultimately only be for those components of the waste stream which are unable to be effectively recovered.

The Waste Audit strongly suggests that the quantity of cardboard disposed to landfill would be sufficient to support a cardboard recycling plant based in Adelaide provided that effective recycling of this material is supported by industry and the community. This support should include material separation by industry so that recyclers can pick up clean, uncontaminated cardboard and paper.

7.4 Litter Strategy

The service agreement with KESAB has been in place for 18 months and has been successful in implementing a number of initiatives. Litter measurement, and Tidy Towns support has been very effective.

John Phillips of KESAB was appointed Chair of the Litter Committee in March 1999. The committee is set to reconvene soon to implement further aspects of the Litter Strategy.

The final litter count figures for May are being calculated by KESAB and will be available in the end of 1999. The Litter Committee will then provide an interim report on the performance of industry over the two-year moratorium for the Minister's consideration.

Following the Litter Committee report, recommendations will be put to the Minister and Cabinet to expand or not expand or make changes to the Container Deposit Legislation (CDL). If CDL is to be expanded, draft regulations will be put before Cabinet at that time, to remove exemptions from the existing regulations, and to include the other beverages to be affected.

7.5 Beverage Container Deposit Legislation

South Australia is unique in that we have container deposit legislation. No other State in Australia has privately run drop-off centres. In addition, Adelaide and other centres have kerbside recycling.

As a result, Adelaide and South Australia are equal to the national average in nearly all recyclable commodities, and exceed the national average in beverage containers. South Australians recover for recycling and re-use 83% of their glass beverage containers, 73% of plastic (PET) containers and 84% of aluminium cans. The national average is only 45% for glass, 30% for PET and 65% for aluminium.

The importance of SA container collection depots cannot be underestimated. Of the 109,000 tonnes of domestic materials recycled through kerbside and collection depots, 71,500 tonnes are handled by the depots (66.1%). More can be done in SA however, through kerbside collection, particularly collection and recycling of newspaper and other glass containers.

It came to the attention of the EPA that persons interstate were misusing the container deposit system by bringing large quantities of used containers to South Australian collection depots and demanding a return of the deposit. The legislation required depot operators to take the containers and return the deposit. Since no deposit had been paid on the interstate containers this threatened the collapse of the system.

The EPA reacted quickly by redefining a beverage container to include only those sold in South Australia and on which a deposit had been paid.

This allows depot operators to refuse containers that were sold interstate while ensuring that the high level of return of South Australian produced containers is maintained.

7.6 Recycling In South Australia

In 1997 \$10.6 million worth of materials were recovered from our waste stream by kerbside collection and drop-off centres. This does not include all of the industrial recycling which is undertaken within Adelaide's industry base, nor does it include wastes such as building and demolition waste, or green waste treatment. These last two industries are growing in Adelaide and are responsible for diverting large tonnages from South Australia's landfills.

Demolition waste recycling diverted 350,000 tonnes from landfill last year, and there is very strong market growth locally for this material. A recent release by Transport SA of pavement material specifications using recycled products has further strengthened the demand and utilisation of demolition materials.

The waste treatment, recycling and associated industries are already large employers of skilled and semi-skilled labour. Container collection depots employ some 600 people across SA. People are required for the collection, transport, sorting, baling, processing, value-adding and sale of these commodities.

Adelaide and South Australia are equal to the national average in nearly all recyclable commodities, and exceed the national average in beverage containers. Kerbside collection of recyclables is generally provided through government in most suburbs. While collection of materials has worked reasonably well, markets for these materials have always been the most critical factor. Without markets and uses for the materials there is little reason to collect them. While some good markets exist for locally collected materials, such as newspaper, some plastics and glass, there is a need to improve our recycling industry infrastructure so they can be processed in SA, and not shipped to the eastern seaboard for reprocessing. Cardboard, office paper, liquid paperboard containers, and PET are sent interstate. This adds to the cost of recycling in South Australia, as freight then becomes the single most expensive component.

In this regard the State Government is negotiating with key industries to establish facilities in Adelaide. The EPA has also provided grants and loans to various industries to develop new technologies to recover rubber, plastics, and scrap metal. However, the new primary focus for these grants will be on facilitation of local market development.

Traditionally, purchase prices for kerbside materials in Australia have been developed through negotiated agreements and certain commodities are protected by a floor price. Competition policy and other events will cause downward pressure on kerbside materials pricing and pose obvious threats to the viability of recycling. A voluntary/regulatory package is being considered to counteract this problem.

7.7 Landfills

7.7.1 Overview

The Integrated Waste Strategy for Metropolitan Adelaide recognised that landfill will continue to be a major destination for solid waste in the foreseeable future, even though methods of waste minimisation and recycling will most likely continue to improve. Even if waste is incinerated, there will always be residual solid materials including ashes and clinkers requiring disposal to land.

In general, operating standards at metropolitan landfills have been poor when compared to best practice and this has contributed to the very strong public opposition that exists to new proposals.

In the past few years, because of action by the EPA, a number of badly sited landfills have been closed, with others upgrading their performance. Whilst landfill capacity for the southern metropolitan area is adequate for the next ten to 15 years, the situation in the northern metropolitan area has been more critical because of the uncertainty surrounding the life of Adelaide City Council's Wingfield landfill and the Garden Island landfill.

To reduce this uncertainty, the State Government announced on 21 January 1999 the Governor's approval of the Medlow Road and Inkerman Landfill sites. These sites will provide enough waste management capacity for metropolitan Adelaide in the long term.

The Governor proclaimed the *Wingfield Waste Depot Closure Act 1999* on 6 May 1999. This requires Wingfield landfill to close no later than 31 December 2004 and at a post settlement closure height of 27 metres Australian Height Datum.

The closure timeframe provides the Adelaide City Council with the opportunity to achieve an orderly, environmentally and economically sound withdrawal and is also consistent with the two to four-year lead time required to develop alternative environmentally sound landfill sites.

The Western Region Waste Management Authority (WRWMA) currently operates a solid waste landfill depot on Garden Island. Land Management Corporation (LMC) has developed a preferred rehabilitation plan for the Garden Island landfill that includes extensive revegetation and development of recreational walking areas.

WRWMA has indicated that in order to provide for the costs of establishing rehabilitation works, installation of a comprehensive landfill gas extraction system and ongoing monitoring and management, there will need to be an orderly closure over a five-year period. WRWMA has prepared a draft Landfill Environment Management Plan (LEMP) which is to be incorporated into the lease agreement between LMC and WRWMA. The draft LEMP has been submitted to the EPA for comment and when finalised will be used by WRWMA in support of renewal of its current licence to operate a waste depot.

WRWMA has development approval to establish a baling facility at the landfill. Baling of the waste will minimise the potential for litter generation and access to the waste by birds.

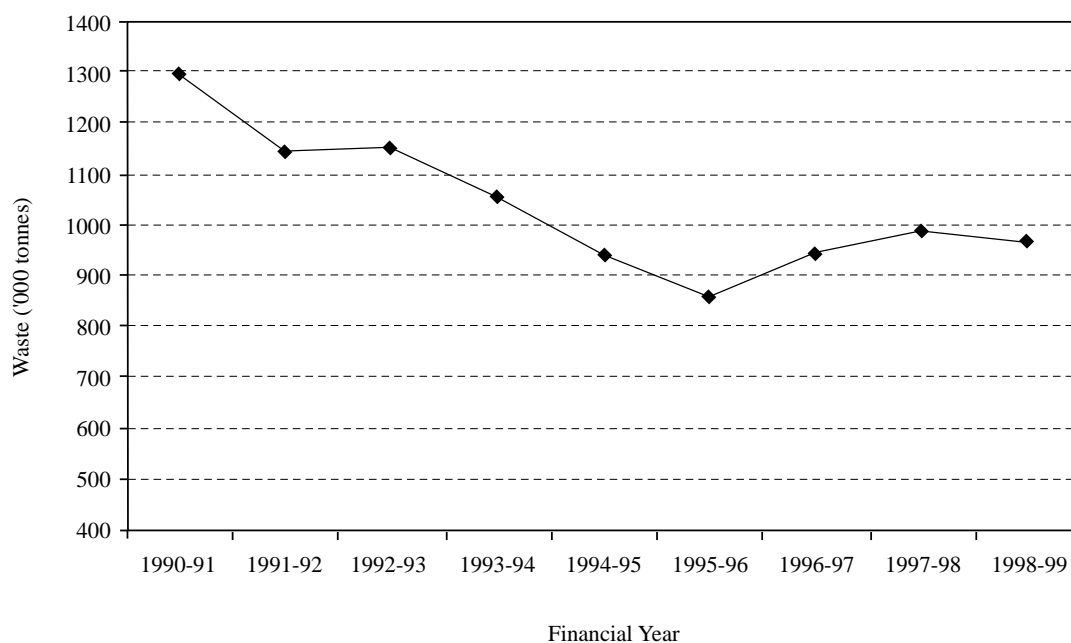
A condition of the current licence requires the preparation of an Environment Improvement Programme to a standard acceptable to the EPA for a period not exceeding five years. This appears to be consistent with the aims of the LEMP.

Consistent with closure of other landfills in the Gillman-Wingfield area, the EPA is seeking closure of the landfill (including final capping) no later than 31 December 2004.

Medlow Road and Inkerman, together with the Dublin landfill (approved by the Governor in January 1999), will give a capacity of 750,000 tonnes per annum for the next 50 years.

The EPA has prepared guidelines for major solid waste landfills, which will serve as basis for the EPA to consider development applications for new landfills and also licence conditions. Conditions of licence for landfills are currently being upgraded following a review of their enforceability.

Solid waste received at landfill in the Adelaide metropolitan area



7.8 Controlled Waste NEPM

The National Environment Protection Measure ensures that controlled wastes that are to be moved between States and Territories are properly identified, transported, and handled in ways that are consistent with environmentally sound practices. In part, the NEPM replaces the National Waste Manifest and Classification System guidelines developed by ANZECC. The ANZECC guidelines have no legislated authority, and were not universally adopted within Australia.

The NEPM provides a national framework for developing and integrating State and Territory systems for the management of the movement of controlled wastes between States and Territories.

All relevant licensees have been visited by an EPA officer and have been given an explanation of the aims of the measure and were advised of the changes that they will have to make as part of its introduction.

The measure is being introduced into conditions of licence for controlled waste producers and waste transporters and depots housing controlled wastes. Most licences that require changes have now been completed. The measure also now has effect as an Environment Protection Policy and applies across all of South Australia.

In order to assist with uniformity of implementation across Australia, South Australia is represented in the Implementation Working Group, which comprises representatives of all States and Territories.

8.0 WORKING WITH THE COMMUNITY

8.1 Public Involvement in Decision Making

The public is involved in decision making at various levels. The EPA is required to hold a Round-Table Conference annually. In the making of an environment protection policy, the EPA is required by legislation to seek public input. Further, the EPA must consult with 16 representative organisations prescribed under the Act, which include the Conservation Council of SA and SAECCI. There is also opportunity for the public to be involved in the granting of authorisations and in the process of amending conditions of a licence.

8.2 Round-Table Conference

The 1999 Round-Table Conference was held during Environment Week on Friday 4 June at the Stamford Plaza, North Terrace, Adelaide. One hundred and eighty delegates from industry, local government, community groups and government agencies gathered to gain a better understanding of the work of the EPA and to provide feedback on the administration of the Act.

The proceedings provided a valuable insight into how the community and the holders of environmental authorisations viewed the work of the EPA. A detailed report of the conference proceedings will be distributed later in 1999.

8.3 Pollution Complaints

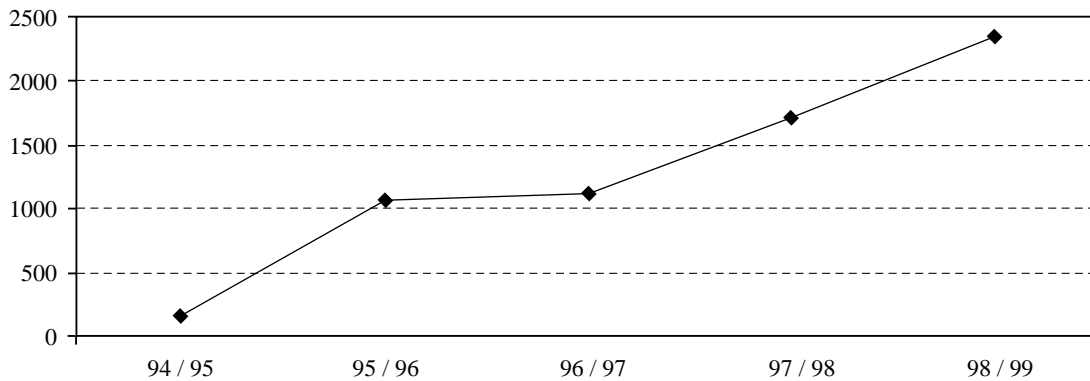
The table below shows the number and type of pollution complaints lodged with the EPA in 1997-98 and 1998-99.

Type of Complaint	1997-98	1998-99
Air	688	800
Noise	743	787
Waste	79	54
Water	177	674
Total	1687	2315

8.3.1 Complaints lodged with the EPA

Overall the number of complaints has increased since 1994-95. The large increase in water complaints since 1997-98 may be due to improved community awareness of stormwater contamination as an important environmental issue.

Growth in complaints by financial year



8.4 Public Access to Information

It is the intention of the EPA to provide environmental information to the broader community via the Internet. At present monitoring information is contained on a number of different databases in a number of different agencies. Agreement has been reached with the agencies concerned to provide a common access point to the databases which will allow external interrogation. A contract has been drafted to scope and develop options to allow database interrogation.

The EPA produces and publishes many publications including information sheets, newsletters, manuals and reports. Many of these are available for free. Please refer to Appendix 3.

8.5 Public Register

The EPA maintains a register of information concerning its activities that may be accessed by the general public. The following information is maintained on the register:

- appropriate information relating to each application for an environmental or development authorisation and each application for approval of a transfer of an environmental authorisation

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- each determination of the EPA made in respect of an application
 - the name and address of each person holding an environmental or development authorisation
 - the locations at which activities are or are proposed to be undertaken pursuant to environmental or development authorisations
 - the conditions of each environmental or development authorisation
 - details of any suspension, cancellation or surrender of an environmental authorisation or any disqualification imposed in relation to an environmental authorisation
 - details of beverage container approvals and applications for beverage container approvals
 - details of incidents causing or threatening serious or material environmental harm
 - details of any environment protection order, clean-up order or clean-up authorisation issued and of any consequent action taken by the person to whom such an order was issued or by the EPA
 - details of prosecutions and other enforcement action under the Act
 - details of civil proceedings before the Environment, Resources and Development Court under the Act.

In 1998-99 there were 56 enquiries to consult the public register.

8.6 National Pollutant Inventory

The National Pollutant Inventory (NPI) will detail the types and amounts of pollutants entering different areas of the environment. NPI emissions information will be available to users in government, industry and the community via an Internet database. Such information will help to create an informed community which should in turn lead to waste minimisation.

Information relating to both point and diffuse sources of emissions to air, land and water will be collected. Industrial facilities using more than a specified amount of chemicals will be required to estimate (or monitor) and report emissions of these substances annually. The information will be collated, presented on a geographic information system and made widely available in electronic and printed form.

The educational programme for the NPI in South Australia consisted of introductory seminars and intensive information sessions to a broad audience of industry associations and industries covering over 40 industry sectors across South Australia. The programme was implemented in both Adelaide and regional centres of South Australia and went beyond base requirements.

8.7 Freedom of Information

During the year ending June 30 1999, 23 applications were received under the *Freedom of Information Act 1991*, for information relating to EPA licensees and other matters.

Of the requests, 13 were granted in full, six in part, and three refused. One application was still in progress as at 30 June 1999.

8.8 Emergency Pollution Incident Response

During 1998-99 the EPA continued to maintain a roster of experienced staff who responded to emergency pollution incidents when notified through the EPA's emergency 24-hour pager number.

The EPA continued to maintain an emergency pollution incident response system in order to:

- participate in the 'whole-of-government' (Blue Book) procedure for dealing with spillages or leakages of hazardous substances onto land or into non-marine waters
- participate in the national plan for responding to oil or chemical spills at sea
- deal with major breaches of the Environment Protection Act which are reported to the EPA outside normal office hours.

The Blue Book procedure is initiated if the police or fire service decide that any spilled or leaked material may adversely affect human health, the environment, public facilities private property and/or stock. The fire service acts as the combating authority. The Department of Administrative and Information Services coordinates technical advice from support agencies, such as the EPA, Department of Human Services, Department of Transport, Urban Planning and the Arts (DTUPA), SA Water and local councils, to the combating authority at an incident.

The national plan for responding to oil and chemical spills at sea is initiated through the DTUPA Marine Safety Unit on the basis of information supplied from the public, industry, local councils, other government organisations and vessel operators. Any call received by the EPA through its emergency pollution incident response system which relates to oil spills at sea is redirected to the DTUPA's Marine Safety Unit 24-hour phone number. The DTUPA acts as the combating authority for oil and chemical spills at sea in South Australia. The Australian Maritime Safety Authority provides resources at major incidents. When requested, the EPA provides advice to the combating authority about the environmental implications and response priorities at an oil or chemical spill.

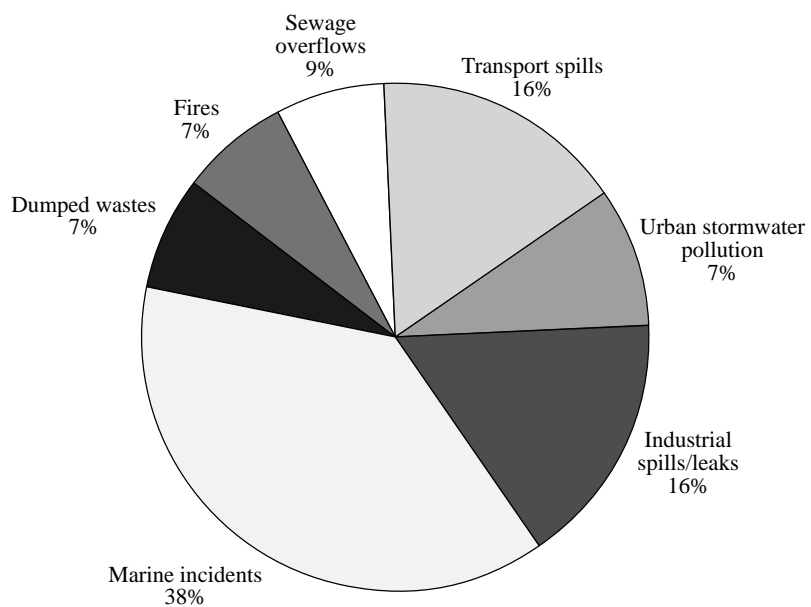
During 1998-99 the EPA received notification of 65 incidents through its emergency pollution incident response system. The chart below presents a breakdown of incidents which the EPA was notified of and/or became involved in responding to via its emergency pollution incident response system.

Although there were no incidents during 1998-99 which caused major environmental harm the following incidents were the most noteworthy:

- acid discharge from a smelter in Port Pirie
- sewage sludge discharge into West Lakes
- a fire in a chemical storage shed 150 metres from the River Murray
- pesticide vandalism at a house in Marino

- bitumen and kerosene discharge into a creek and stormwater detention basin at Glenside
- minor oil discharges from commercial fishing vessels at Port Lincoln.

Emergency response incidents dealt with by the EPA in 1998-99



9.0 LEGISLATION AND POLICY

9.1 Legislative Amendment to the Environment Protection Act 1993

The *Environment Protection Act 1993* (the Act) was assented to in October 1993. Since the Act came into operation in 1995 parts have needed to be amended, subordinate legislation has been introduced, and a number of areas where the Act could be improved have been identified.

The major drivers for a review of the Act are:

- The need for specific provisions to address site contamination
- Limitations within the enforcement provisions of the Act. These limitations make enforcement by the EPA more difficult than is necessary
- Roles of the Minister, the EPA and the department. There is a need to better define the respective roles of the three key players
- Other provisions of the Act. Various other provisions within the Act require attention in order to improve the efficiency and effectiveness of administration of the Act
- National Competition Policy Review
- The previous commitment by the former Minister for the Environment and Natural Resources to the Parliament and at the inaugural Round-Table of the EPA in 1997, to undertake a general review of the provisions of the Act.

The review will cover the entire Act with special emphasis given to the major drivers for the review. It comprises three discrete components, which will be progressed concurrently as separate units. These components are:

- National Competition Policy Review
- Site Contamination Provisions
- General Review.

Feedback from consultation on public discussion papers will lead to the development of a public consultation Bill for the general amendment of the Environment Protection Act 1993 and an accompanying explanatory paper. The review should be complete by 2001.

9.2 Environment Protection Policies (EPPs)

The EPA prepares draft Environment Protection Policies (EPPs) on significant issues where the environment must be protected. An EPP seeks to guide people undertaking activities that pollute or might pollute the environment on how to prevent or minimise any environmental harm that may be caused by those activities. In certain situations, the EPA has given more force to those guidelines by making it an offence not to follow them. An EPP also seeks to guide the EPA regarding the factors it needs to consider in administering the legislation.

The EPPs under development are described below.

9.2.1 Site Contamination

The Act currently does not specifically address site contamination.

The amendments to deal with this issue are under development and include provisions for:

- Accreditation of environmental auditors (site contamination) in South Australia. This will provide legislative support to a system, currently using accreditation by the Victorian EPA, which has been operating in South Australia since October 1995. A similar audit system has been in operation, or is proposed, in all major States of Australia, and has been widely accepted by landowners and managers, the land market, financial and legal institutions and industry as a whole
- Definition of liability for the clean-up of contamination. This generally is in accord with the ANZECC *Financial Liability for Contaminated Site Remediation, A Position Paper*
- Special provisions for widespread contamination. These address areas with widespread contamination such as Port Pirie.

The amendments will be complemented by the Assessment of Site Contamination NEPM when this is implemented as an Environment Protection Policy under the Act. The amendments to the Act will provide legislative means to support planning authorities implementing the EPA recommendations in regard to site contamination and for the documents proposed to be issued by Planning SA to address site contamination, for example, the Planning Bulletin and the *Plan Amendment Report*.

Overall, the amendments to the Act will provide legislative support for the processes and procedures currently in operation for the assessment and management of site contamination in South Australia, which are generally in accordance with those operating nationally. They will also provide effective legal means to address site contamination and any resulting impacts that may pose risks to human health and the environment.

9.2.2 Water Quality

The EPA component of the development of the Environment Protection (Water Quality) Policy is now complete and has been handed to the Environment Policy Division for completion of the final stages. The EPA continues to provide technical support to the development of the policy as needed.

9.2.3 Waste

The EPA is currently preparing a range of initiatives relating to waste management within South Australia. Foremost among these initiatives is the development of a new Environment Protection (Waste Reduction, Recycling and Disposal) Policy. A discussion paper has been issued for comment within the agency prior to the seeking of comment from external agencies. It is on time and within budget.

9.2.4 Noise

The Environment Protection (Noise) Policy, which will replace the two existing noise policies, has been the focus of a number of discussion papers. A project manager has been appointed in the Environment Policy Division. After consultation with key stakeholders and the general public these papers will be developed into a draft noise policy. It is expected that the discussion papers will be available to the public towards the end of 1999.

9.2.5 Landfill Gas

The Environment Protection (Landfill Gas) Policy seeks to set out the framework for the monitoring and control of gas emanating from landfills. This gas may have high impacts on the atmospheric ozone layer, and its explosive nature can be a danger to the public for up to 50 years after the close of a landfill.

A discussion paper on the draft EPP has been released for comment from external agencies. Once those comments have been assessed and possibly incorporated, the paper will be released for public comment.

10.0 REGULATING ENVIRONMENTALLY SIGNIFICANT ACTIVITIES

The EPA regulates prescribed activities of environmental significance in two ways:

- it licenses and controls through licence conditions the manner in which these activities are undertaken
- it has input in the initial stages when a development is proposed.

10.1 Environmental Authorisations

The EPA administers an integrated system of environmental authorisations (works approval, licence or exemption) on behalf of the EPA, for specified activities of environmental significance listed in the Environment Protection Act.

Many activities, including major industries, manufacturing and minerals processing enterprises and waste treatment and disposal depots must conduct their business in accordance with strict licence conditions set by the EPA. Licences define pollution control standards and other conditions required to be met by businesses to protect the environment. Breaches of licence are an offence under the Act and carry heavy penalties.

No. of authorisations under the Environment Protection Act	1997-98	1998-99
Licences	1876	1806
Exemptions	17	44
Ozone exemptions (storage)	1149	1317

10.2 Environmental Planning and Assessment

The EPA provides comment or direction with regards to development applications for or involving activities of environmental significance (as specified in Schedules to the Development Regulations 1993) which are referred by planning authorities to the EPA for comment or direction. For major activities, the EPA normally recommends environmental conditions of approval. Once approval has been granted, the EPA must issue a licence. Whilst licence conditions provide protection for human health and amenity, protection is better provided through proper planning, in particular concerning the proximity of housing to industry. This area is the responsibility of the planning authority (local council).

Development referrals by category

	1997-98	1998-99
Water Protection Area (Schedule 8)	44	55
Schedule 21	279	184
Schedule 22	142	188
Section 46 (Major Projects or Developments)	8	12
Non-scheduled	44	63
Total	517	502

Major projects or developments (section 46) that have been processed include:

- Tumby Bay Marina EIS—Amendment
- Wallaroo Marina EIS—Amendment
- Hindmarsh Soccer Stadium Redevelopment—Development Report
- Memorial Drive Tennis Centre Redevelopment—Development Report
- Beverley Uranium Project EIS—Joint Federal/State EIS
- Port Vincent Marina
- NAWMA Smithfield Quarry Balefill
- Pathline Australia Pty Ltd, Northward fill landfill
- Mildara Blass Winery at Nuriootpa—Development Report
- SAMAG Magnesium Production Plant (and associated haul road, and ore storage and loading facility)
- SNI Project (formerly known as 'Riverlink')—275 Kv transmission line between Buronga (NSW) and Robertstown (SA) to connect SA and NSW electricity grid
- Kistler Aerospace Corporation Satellite Launch Project, Woomera.

11.0 COMPLIANCE, ENFORCEMENT AND INVESTIGATIONS

11.1 Investigations Unit

The Investigations Unit was established and commenced on 1 July 1998. Two environment protection officers were initially selected to staff the unit with the permanent positions settled in mid-1999. Protocols were established as to when the unit is used and were put in place by 1 September 1998.

Activities undertaken by the Investigations Unit in 1998-99 are outlined below.

11.1.1 Compliance Audit under the Environment Protection (Milking Shed Effluent Management) Policy

In liaison with the Dairy Farmers' Association a news item to advise dairy farmers that a compliance audit would be taking place and for them to ensure that they are complying with the policy was placed in magazines circulating to dairy farmers. On 24 June 1999, a compliance audit of dairy farms in the Birdwood/Mt Torrens area commenced. One farm was not complying with the policy with a dam overflowing and effluent running towards the boundary fence. An Environment Protection Order was placed on the property to ensure compliance with section 25 (general environmental duty) of the Act and with the policy.

11.1.2 Compliance Audit under the Environment (Marine) Policy

All the marine licences have been checked for compliance. Further enquiries concerning adherence to licence conditions will continue once the resources currently allocated to a major incident under investigation become available.

11.1.3 Training in Investigations Techniques

Investigations' training was carried out at the last three Environment Protection Enforcement Certificate courses. This commitment is ongoing and the next course will be held in November 1999.

Training information has been circulated to authorised officers during the year. Advice has been given to authorised officers on investigations techniques. Further in-house training is planned.

11.2 Enforcement

The EPA carries out inspections to check compliance and, where deliberate or continuous breaches occur, enforcement is carried out.

If an individual or business fails to comply with the Environment Protection Act, the EPA has two alternatives:

- correct the non-compliance
- prosecute and correct the non-compliance.

11.2.1 Civil Enforcement

To correct non-compliance, the EPA may issue a warning, strengthen licence conditions, negotiate environmental improvement programmes or undertake civil enforcement action (for example, Environment Protection Orders and Clean-up Orders). The choice of action is dependent on the degree of risk or extent of environmental harm that has occurred and the timeliness of action required to protect the environment.

Prosecution is undertaken in order to punish the individual concerned, deter others from taking similar action, and encourage the community and industry to proactively address their environmental responsibilities. In all cases where prosecution is undertaken, the EPA will also act to ensure that non-compliance is corrected.

Orders issued under the *Environment Protection Act 1993*

	1996-97	1997-98	1998-99
Environment Protection Orders	315 (287 orders issued by the SA Police)	321 (292 orders issued by the SA Police (parties and domestic noise) (1 order issued by local council)	303 (266 orders issued by the SA Police (parties and domestic noise)
Clean-up Orders	2	1	0

11.2.2 Prosecutions

On Wednesday 29 April 1998 an amount of an ethyl mercaptan used to odourise LPG was released from the fuels and lubricating oil refinery at Port Stanvac. The odorant chemical vaporised and dispersed throughout factory premises in Lonsdale. The odour spread throughout the factory building of Sola Optical Australia and other places making staff feel ill. Seventeen people were taken by ambulance to Flinders Medical Centre and treated.

The EPA completed an investigation into the refinery odorant release and determined that there had been a breach of the *Environment Protection Act 1993*. A charge of causing serious environmental harm was laid against Mobil Refining Australia Pty Ltd. Mobil entered a plea of guilty to a charge of causing material environmental harm. This offence has a lesser penalty than that for serious environmental harm.

On 30 April 1999 Mobil was convicted of causing material environmental harm at Lonsdale on 29 April 1998 and fined \$24,000 with \$600 costs. The company is bringing forward a proposed upgrade of the odorant dosing facility and increased its scope to incorporate world's best practice. This resulted in the construction of a new facility within a dedicated building, at a cost of \$500,000.

Holden Ltd has been charged with causing an environmental nuisance and breaching its environment protection licence on two different grounds at Elizabeth on 5 June 1998. A guilty plea is to be entered at court on 5 October 1999.

Integrated Waste Services was charged with breaching its environmental authorisation by receiving a prohibited waste. The company pleaded guilty and received a conviction and fine of \$2000.

On 28 June 1999 an oil spill occurred into the ocean after a tanker unloaded oil at the Mobil oil refinery at Port Stanvac. An investigation is proceeding to determine if there has been a breach of either the *Environment Protection Act 1993* or the *Pollution of Waters by Oil or Noxious Substances Act 1987*.

Investigations are in place or have been completed for a range of other matters. Those completed have been resolved to the satisfaction of the EPA or have not resulted in court action.

12.0 ADMINISTRATION

12.1 Staff Training and Development

Investment in staff training and development by the EPA during 1998-99 included the following programmes:

12.1.1 Authorised Officer Training

- Overview of EP Act (Regions)
- Environment Protection Enforcement Certificate Course (EPECC)
- Investigation Methods Course
- Investigative Interviewing Techniques
- Pesticides in the Urban Environment

12.1.2 Environment Protection Training

- Fine Particle Workshop
- Hydrostorm 98
- Noise Workshop 1999 (practical)
- Noise Training Course: A Technical Exercise
- Oil Spills Response Workshop Level 3
- Environmental Noise Seminar 1 and 2 June 1999
- Air Quality Seminar—Hydrosonic Scrubber
- Groundwater School
- Practical Environmental Auditing Workshop

12.1.3 Staff and Professional Development Programmes

- Management International Marketing Legal Aspects
- Professional Certificate in Management
- Maximising Profiles from Climate Change Reform
- Springboard for Women
- Staff Induction Course
- Landcare at the Grassroots
- Business Writing Skills Course

-
- Statistics in the Workplace
 - Internal Quality Systems Audits—NATA
 - Overview to Exporting Services Risk
 - Train the Trainer (Small Groups)
 - Performed Mentoring Task
 - Business Writing Skills Course
 - Technology of Participation—Group Facilitation Skills Training Course
 - EPA Servicing Local Government Workshop
 - Potential Performance and Progress
 - Letter and Report Writing Course
 - Consulting the Community—Managing and Resolving Conflict Workshop
 - Media Training CPR
 - Resumes that work and Interview techniques and preparation
 - Difficult Customers
 - How to Design Brochures
 - Team Working (Regions)
 - Marketing Workshop

12.1.4 Information Technology/Computer Training

- MS Office 97 Upgrade
- Accrual Accounting
- Excel 97 Intermediate/Advanced
- Starting out with Project 98
- Continuing OHS&W and Information Technology
- Arcview Training Course
- Access 97 Introduction
- REALM Basic Training Workshop
- MS Project 98—Introduction
- Kinetica Web Training
- Powerpoint 7.0/97 Introduction

12.1.5 Occupational Health, Safety and Welfare

- Basic OH&S Representatives Course
- DEHAA Safety Awareness Session
- Discrimination and Harassment Contact Officer Training
- Coxwains Certificate Course
- DAN Oxygen
- Dirt and Bitumen Collision Avoidance/Car Control
- Continuing OHS&W Representative Training
- Fire Training Course
- Health and Safety Representatives Training (Basic)
- OHS&W - Where Is It Going?
- Emergency Response—Tanker Rollover Training
- St John Senior First Aid Update Course
- St John Occupational First Aid Re-certification
- Breathing Apparatus Familiarisation Course
- Occupational Diving to Australian Standards 2815.1
- Elements of Shipboard Safety
- Supervisors - OHS&W Responsibility
- OHS Awareness Course

12.1.6 Education

- Diploma of Environmental Management
- Graduate and Post Graduate University Degree Courses
- Graduate Certificate in Applied Science (Environmental Management)

12.2 External Consultants

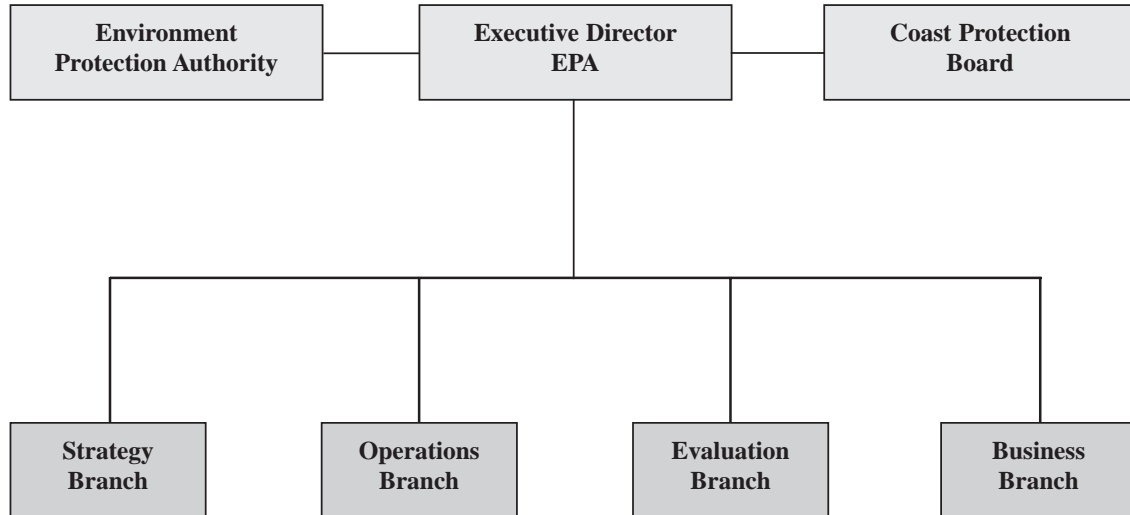
Various consultants are engaged to carry out studies on behalf of the EPA. Listed below are the consultancies carried out in 1998-99 that were funded through the accounts of DEHAA.

Consultants	Project	Amount (\$)
Below \$10,000		
Total value	(23 consultancies, each less than \$10,000)	74,572.84
\$10,000—\$50,000		
Kinhill	Wingfield Landfill final contour options study	10,971.00
Maunsell Pty Ltd	Performance Evaluation of Local Govt Recycling and Waste Management Board (Recycle 2000)	11,000.00
Phillip Hudson Consulting	CDL Review	16,400.00
Above \$50,000		
Waste Audit and Consultancy	Landfill Audit	223,280.00
Total		\$336,223.84

12.3 Financial Statements

The audited financial statement as required by section 111 of the Act is contained in Appendix 4.

Appendix 1 Organisational structure of the Environment Protection Agency



Atmosphere and Noise	Murraylands Region	Air Monitoring	Administrative Support
Coast and Marine	Northern Zone	Environmental Information	Finance and Budgeting
Strategic Support	Port Augusta Area	Investigations and Enforcement	Human Resources Management
Waste and Pollution Prevention	Southern Zone	Special Projects	Information Technology
Water and Catchments	South East Region	Water Monitoring	
	Technical Support		
	Water Administration and Licensing		

Appendix 2 Delegations by the Environment Protection Authority

Under section 115 Of the *Environment Protection Act 1993*

Column 1	Column 2
<i>Powers and functions of the Environment Protection Authority</i>	<i>Positions subject to delegation.</i>
To perform any functions assigned under the <i>Development Act 1993</i> in accordance with the requirements of section 57 of the <i>Environment Protection Act 1993</i> (the Act), as granted pursuant to section 13(1)(i) of the Act.	Reference to a position, unless a contrary intent is indicated, means reference to a position within the Environment Protection Agency. Development Applications Executive Director; Deputy Director; Manager Strategy; Manager, Evaluation; Manager, Strategic Support; Environmental Planner
<i>Environment Protection Fund</i>	
The power pursuant to section 24(4) of the Act to apply monies from the Environment Protection Fund to the positions within the Environment Protection Agency set out in column 2 of this instrument of delegation and to the value per transaction as specified for these positions below.	
\$150,000	Executive Director
\$30,000	Deputy Director; Manager, Strategy; Manager, Evaluation; Manager, Support
\$15,000	Manager, Technical Support, Operations; Manager, Northern Zone, Operations; Manager, Southern Zone, Operations; Manager, Environment and Water

Legal proceedings

The power pursuant to section 33 of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

Environmental authorisations - in the form of works approvals

The powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of environmental authorisations in the form of works approvals and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations.

Executive Director

Except for the function under section 38(1) of the Act, the powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of environmental authorisations in the form of works approvals and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations.

Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Technical Support, Operations;
Manager, Northern Zone, Operations;
Manager, Southern Zone, Operations;
Manager, Environment and Water Licensing

Environmental authorisations - in the form of exemptions

In respect of environmental authorisations in the form of exemptions that have not been granted in accordance with criteria approved by the Environment Protection Authority (the Authority) and set out in approved exemption guidelines by the Authority, the powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of environmental authorisations in the form of exemptions and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations PROVIDED THAT no more than six (6) consecutive exemptions may be granted in relation to the same activity of environmental significance conducted by the holder.

Executive Director

Where environmental authorisations in the form of exemptions are to be granted or have been granted and the conditions imposed thereupon accord with exemption guidelines approved by the Authority, the powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of those environmental authorisations and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations.

Executive Director

Where environmental authorisations in the form of exemptions are to be granted or have been granted and the conditions imposed thereupon accord with exemption guidelines approved by the Authority, the powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of those environmental authorisations and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations EXCEPT FOR the function under section 38(1) of the Act.

Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Technical Support, Operations;
Manager, Northern Zone, Operations;
Manager, Southern Zone, Operations;
Manager, Environment and Water Licensing

Where environmental authorisations in the form of exemptions are, pursuant to section 78 of the Act, required to be granted, all the powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of the environmental authorisations and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations.

Executive Director

Where environmental authorisations in the form of exemptions are, pursuant to section 78 of the Act, required to be granted, all the powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of the environmental authorisations and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations EXCEPT FOR the function under section 38(1) of the Act.

Deputy Director;
Manager, Strategy
Manager, Atmosphere Noise, Strategy;
Senior Environment Officer (Ozone Protection);
Senior Licensing Officer

Environmental authorisations - in the form of licences

The powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of environmental authorisations in the form of licences and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations.	Executive Director
The powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of environmental authorisations in the form of licences and which are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations EXCEPT FOR the function under section 38(1) of the Act.	Deputy Director; Manager, Strategy; Manager, Evaluation; Manager, Technical Support, Operations; Manager, Northern Zone, Operations; Manager, Southern Zone, Operations; Manager, Environment and Water Licensing
The powers and functions under Divisions 4 and 5 of Part 6 of the Act that are necessary or incidental to the grant, renewal and transfer of environmental authorisations in the form of licences to conduct a category A or B waste transport business (as described in items 3(5) and 3(6) of Schedule 1 to the Act) and that are necessary or incidental to the imposition of conditions, including special conditions, upon the grant, renewal or transfer of those environmental authorisations EXCEPT FOR the function under section 38(1) of the Act.	Environment Protection Licensing Administrator; Senior Licensing Officer

Surrender of environmental authorisations

The powers pursuant to section 56 of the Act exercised in response to an application to surrender an environmental authorisation.	Executive Director; Deputy Director; Manager, Strategy; Manager, Evaluation
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Voluntary environmental audits

The power pursuant to section 58(3) of the Act.	Executive Director; Deputy Director; Manager, Strategy; Manager, Evaluation
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Environmental performance agreement

The power to enter into an Environment Performance Agreement pursuant to section 59 of the Act. Executive Director

Beverage containers

The powers pursuant to section 68 and 69 of the Act. Executive Director;
Deputy Director;
Manager Strategy;
Manager Waste and Pollution Prevention;
Coordinator, Beverage Container Administration;
Senior Adviser, Recycling and Re-use

Appointment of authorised officers

The power to appoint persons to be authorised officers pursuant to section 85(1) of the Act. Executive Director

The power to appoint persons employed within the Department of Environment, Heritage and Aboriginal Affairs to be authorised officers pursuant to section 85(1) of the Act. Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

The power pursuant to section 85(3) of the Act to consult with a Council for the purposes of that section. Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

The power pursuant to section 85(5) of the Act to revoke an appointment of an authorised officer, or to vary or to revoke a condition specified in the instrument of appointment or to impose a further condition in respect of authorised officers who are employees of the Department of Environment, Heritage and Aboriginal Affairs. Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

The power pursuant to regulation 11(3)(b) of the *Environment Protection (General) Regulations 1994* to determine a condition of appointment of an authorised officer.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

Identity card

The power to approve the form of the identity card to be issued to authorised officers pursuant to section 86(1) of the Act.

Executive Director

Environment protection orders

The power to issue, to vary and to revoke environment protection orders pursuant to section 93 of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Technical Support, Operations;
Manager, Northern Zone, Operations;
Manager, Southern Zone, Operations;
Manager, Environment and Water Licensing;
Manager, Environment Protection Murraylands;
Manager, Environment Protection Southeast;
Regional Manager, Murraylands Region

The power pursuant to section 95(2) of the Act to authorise persons other than authorised officers for the purpose of section 95(1) of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Technical Support, Operations;
Manager, Northern Zone, Operations;
Manager, Southern Zone, Operations;
Manager, Environment and Water Licensing;

Manager, Environment Protection
Murraylands;
Manager, Environment Protection
Southeast;
Regional Manager, Murraylands
Region

Register orders and authorisations

The powers pursuant to section 94(1) and section 101 of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

Information discovery orders

The power to issue, to vary and to revoke information discovery orders pursuant to section 96 of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

The power pursuant to section 97(2) of the Act to authorise persons other than authorised officers for the purpose of section 97(1) of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation; Manager,
Support

Clean up orders

The power to issue, to vary and to revoke clean up orders pursuant to section 99 of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Technical Support,
Operations;
Manager, Northern Zone,
Operations;
Manager, Southern Zone,
Operations;
Manager, Environment and Water
Licensing;

Manager, Environment Protection
Murraylands;
Manager, Environment Protection
Southeast;
Regional Manager, Murraylands
Region

The power pursuant to section 102(2) of the Act to authorise persons
other than authorised officers for the purpose of section 102(1) of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Technical Support,
Operations;
Manager, Northern Zone,
Operations;
Manager, Southern Zone,
Operations;
Manager, Environment and Water
Licensing;
Manager, Environment Protection
Murraylands;
Manager, Environment Protection
Southeast;
Regional Manager, Murraylands
Region

Clean up authorisations

The power to issue, to vary and to revoke clean up authorisations
pursuant to section 100 of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Technical Support,
Operations;
Manager, Northern Zone,
Operations;
Manager, Southern Zone,
Operations;
Manager, Environment and Water
Licensing;
Manager, Environment Protection
Murraylands;
Manager, Environment Protection
Southeast;
Regional Manager, Murraylands
Region

Levies

The power pursuant to section 113 of the Act to direct the intervals and the manner of payment of the prescribed waste depot levies and to require a licensee to make good any default in the payment of such prescribed levies.

Executive Director;
Manager, Support

Waiver or refund of fees

The power pursuant to section 116 of the Act and Schedule 3, *Environment Protection (Fees & Levy) Regulations 1994*.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation;
Manager, Support

Appointment of analysts

The power to appoint analysts pursuant to section 134 of the Act.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation

Halon

The power to approve the disposal of halon pursuant to regulation 6(3)(d)(iii) of the *Environment Protection (Ozone) Regulations 1994*.

Executive Director;
Deputy Director;
Manager Strategy;
Manager, Atmosphere Noise,
Strategy;
Senior Environment Protection
Officer (Ozone Protection)

Prescribed substances

All the powers and functions under the *Environment Protection (Ozone) Regulations 1994*.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Atmosphere Noise,
Strategy;
Senior Environment Protection
Officer (Ozone Protection)

Environmental harm

The power and functions pursuant to Regulation 10 of the <i>Environment Protection (General) Regulations 1994</i> .	Executive Director; Deputy Director; Manager, Strategy; Manager, Evaluation
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Works approvals

The power and functions under regulation 5(2), <i>Environment Protection (Fees and Levy) Regulations 1994</i> .	Executive Director; Deputy Director; Manager, Strategy; Manager, Evaluation
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Publication of notices

The power pursuant to regulation 8 of the <i>Environment Protection (Fees and Levy) Regulations 1994</i> .	Manager, Support
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Authorisation fee for license

The power pursuant to regulation 10(12) of the <i>Environment Protection (Fees and Levy) Regulations 1994</i> .	Executive Director; Deputy Director
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The power pursuant to regulation 12 of the <i>Environment Protection (Fees and Levy) Regulations 1994</i> .	Executive Director; Deputy Director; Manager, Strategy; Manager, Evaluation; Manager Support
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All the powers and functions under:

Part A, Schedule 3 of the <i>Environment Protection (Fees and Levy) Regulations 1994</i> and; Part B, Schedule 3 of the <i>Environment Protection (Fees and Levy) Regulations 1994</i> .	Executive Director; Executive Director; Deputy Director; Manager, Strategy; Manager, Evaluation
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Authorisation fee for exemption

The power pursuant to regulation 13(2) of the <i>Environment Protection (Fees and Levy) Regulations 1994</i> .	Executive Director; Deputy Director; Manager, Strategy; Manager, Evaluation Waste received at depots
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The power pursuant to regulation 15(5)(a), 15(6)(b), 15(6)(c)(i) and 15(6)(e)(ii) of the *Environment Protection (Fees and Levy) Regulations 1994*.

Executive Director;
Deputy Director;
Manager, Strategy

Levy payable by Councils

The power to reduce the levy payable by a Council pursuant to regulation 16(4) of the *Environment Protection (Fees and Levy) Regulations 1994*.

Executive Director

Noise level measurements

The power pursuant to clause 9 of the *Environment Protection (Machine Noise) Policy 1994* and clause 9 of the *Environment Protection (Industrial Noise) Policy 1994*.

Executive Director;
Deputy Director

Air pollution

All the powers and functions under the *Environment Protection (Air Quality) Policy 1994*.

Executive Director;
Deputy Director

Burning in the open

All the powers and functions under the *Environment Protection (Burning) Policy 1994*.

Chief Executive Officers,
District and Municipal Councils

Beneficial uses of receiving waters

The power pursuant to clause 5(4) of the *Environment Protection (Marine) Policy 1994*.

Executive Director;
Deputy Director;
Manager, Strategy;
Manager, Evaluation

"Measurement place" and "sampling place"

All the powers and functions to determine the "*measurement place*" and the "*sampling place*" pursuant to the provisions of the *Environment Protection (Industrial Noise) Policy 1994*.

Persons for the time being
appointed as Authorised Officers

Appendix 3 EPA Publications List

Information Sheets		Cost
No 1	A New Approach in SA to Environment Protection, January '95	Free
No 2	Objects of the Environment Protection Act 1993, January '95	Free
No 3	How Your Company will Benefit from the Environment Protection Act, January '95	Free
No 4	EPA Organisational Structure, July '98	Free*
No 6	Environment Improvement Programmes, September '95	Free
No 7	Construction Noise, October '95	Free
No 8	Assessment Procedure for Contaminated Sites, November '97	Free
No 9	Noise Control, April '98	Free
No 10	Burning on Non-Domestic Premises, May '99	Free
No 11	Burning on Domestic Premises, May '99	Free
No 12	Air Conditioner Noise, September '96	Free
No 13	Disposal of Backwash Water from Swimming Pools, October '96	Free
No 14	The Disposal of Refrigeration and Airconditioning Equipment Containing Prescribed CFCs and HFCs, March '97	Free
No 15	Waste Tyre Disposal, July '97	Free
No 16	Detergents, October '97	Free
No 17	Environment Protection Compliance and Enforcement, March '99	Free*
No 18	Solid Fuel Fires, May '99	Free*
Technical Bulletins		
No 2	Storage, Transport and Disposal of Medical Wastes, December '98	Free
No 5	Disposal Criteria for Contaminated Soil, November '97	Free
No 11	Winery and Distillery Wastewater Monitoring Programmes, November '96	Free
No 12	Land Application of Alum Sludge from Water Treatment, February '97	Free
No 13	Irrigation with Water Reclaimed from Sewage Treatment on Pastures Used for Grazing of Cattle and Pigs, November '96	Free
No 21	Independent Verification of Monitoring Programmes, May '96	Free
No 22	Protection for Voluntary Environmental Audits, May '96	Free
	Coastline—The Value of the Adelaide Beaches, Coast Protection Board, November '93	Free
	Coastline—Coastal Vulnerability Assessment, Coast Protection Board, February '97	Free
Special Bulletins		
	The use of Environmental Auditors: Contaminated Land, October '95	Free
Manuals		
	EPA Monitoring Manual - Volume 1: Air Quality Emission Testing Methodology for Air Pollution, March '95	\$55.00

Reports and Strategies	Cost
Integrated Waste Strategy for Metropolitan Adelaide 1996-2015, June '96	Free*
Summary Report on Responses to the Integrated Waste Management Strategy - Public Discussion Paper, June '96	\$5.00
Options for an Integrated Waste Management Strategy for the Adelaide Metropolitan Area: 2015 and Beyond Public Discussion Paper, June '95	\$20.00
Integrated Waste Strategy for Metropolitan Adelaide—Progress on Implementation, January '99 (joint publication with Planning SA)	Free
The Australian Marine Debris Status Review - ANZECC Strategy to Protect the Environment, February '96 (EPA acting as distributor)	\$45.00
Three Decades of Air Pollution Control 1961-1991	Free
Ambient Air Monitoring Report - January to December 1996	Free
Environment Protection Authority Annual Report - 1995/96	Free
Environment Protection Authority Annual Report - 1996/97	Free
Round-table Conference Report 1998, April '98	Free
Environment Protection Authority Annual Report - 1997/98	Free*
Coast Protection Board Annual Report 1997/98	Free*
Ambient Water Quality Monitoring of the Port River Estuary - Report No. 1, November '97	Free
Ambient Water Quality Monitoring of Gulf St Vincent Metropolitan Bathing Waters - Report No 1, November '97	Free
Sediment Quality Monitoring of the Port River Estuary - Report No. 1 November, '97	Free
Ambient Water Quality Monitoring of Lake Alexandrina and Lake Albert—Report No 1, September '98	Free*
Ambient Water Quality Monitoring of South Australia's Rivers and Streams (Chemical and Physical Quality)—Report No 1, September '98	Free*
Changes in Seagrass Coverage and Links to Water Quality off the Adelaide Metropolitan Coastline, September '98	Free*
A Cleaner South Australia - Statement on the Environment, Hon Dean Brown, April '95	Free
South East Waste Management Strategy Plan, South East Local Government Association & EPA, November '94	\$10.00
Protecting Gulf St. Vincent A Statement on its Health and Future, DENR, September 1997	Free
State of the Environment Report for South Australia 1998	\$15.00*
State of the Environment Report for South Australia 1998—Summary	\$3.50*
 Codes of Practice and Guidelines	
South Australian Biosolids Guidelines, December '96	Free
Stormwater Pollution Prevention - Code of Practice for the Community September '97	Free
Stormwater Pollution Prevention—Code of Practice for the Building and Construction Industry, March '99	Free

	Cost
Guidelines for Establishment and Operation of Cattle Feedlots in SA, EPA and Primary Industries, June '94	\$10.00
Guidelines for Major Solid Waste Landfill Depots, October '98	Free*
South Australian Reclaimed Water Guidelines—Treated Effluent, April '99	Free*

Pamphlets

Pollution Prevention Fund Kit

Hazardous Wastes

Don't Let Our Waterways Go Down the Drain

Stop Our Waterways Going Down the Drain Series:

- How Your Shop or Restaurant Can Help
- How to Dispose of Problem Household Waste
- How You and Your Household Can Help
- How Cleaning Contractors Can Help
- How Your Mobile Vehicle Service Business Can Help
- How Your Workshop Can Help
- How Your Factory Can Help
- How Builders and Do-It-Yourselfers Can Help

Frog Census

How Healthy are our Streams

Protecting Our Coast

Cleaning up the Port Waterways, October '98*

Waterwatch South Australia*

Newsletters:

Mid North Rivers News—Summer 1998/99*

South Australian Greenhouse News - Issue No 12, Summer 1998/99*

* Produced or updated in 1998-99

Appendix 4 Audited Financial Statements

ENVIRONMENT PROTECTION FUND

Operating Statement for the year ended 30 June 1999

	Note	1999 \$'000's	1998 \$'000's
OPERATING EXPENSES			
Employee Entitlements and Other Employee Related Expenses		-	5,550
Goods and Services	4	56	3,532
Grants and Transfers	5	5860	639
Depreciation		-	64
Interest and Other Finance Expenses		-	1
Loss on Disposal of Non-Current Assets		-	67
Other		-	-
Total Cost of Services		916	9,853
OPERATING REVENUES			
Fees and Charges	6	1,268	1,329
Transfer from the Department for Environment, Heritage and Aboriginal Affairs			5,045
Interest Revenue		58	134
Other Revenues		-	317
Total Operating Revenues		1,326	6,825
REVENUES FROM GOVERNMENT			
Recurrent Appropriations		-	
Business Franchise Fees - Replacement Revenue		-	3,316
Total Revenues from Government		-	3,316
Total Revenues		1,326	10,141
OPERATING SURPLUS BEFORE ABNORMAL ITEM		410	288
Less: Abnormal Items	10	3,604	-
SURPLUS/(DEFICIT) ATTRIBUTABLE TO THE FUND	14	(3,194)	288
The accompanying notes form an integral part of these accounts.			

Statement of Financial Position as at 30 June 1999

	Note	1999 \$'000's	1998 \$'000's
CURRENT ASSETS			
Cash on Hand and on Deposit	7	813	3,522
Receivables	8	134	119
Inventory		-	39
Other		-	17
Total Current Assets		<u>947</u>	<u>3,697</u>
NON-CURRENT ASSETS			
Receivables	8	-	396
Property, Plant and Equipment		-	327
Total Non Current Assets		<u>-</u>	<u>723</u>
TOTAL ASSETS		947	4,420
CURRENT LIABILITIES			
Payables	9	210	489
Total Current Liabilities		<u>210</u>	<u>489</u>
TOTAL LIABILITIES		<u>210</u>	<u>489</u>
NET ASSETS		<u>737</u>	<u>3,931</u>
EQUITY			
Accumulated Surplus	14	737	3,931
TOTAL EQUITY		<u>737</u>	<u>3,931</u>

The accompanying notes form an integral part of these accounts.

ENVIRONMENT PROTECTION FUND

Statement of Cash Flows for the year ended 30 June 1999

		\$'000	\$'000
		Inflows	Inflows
		(Outflows)	(Outflows)
	Note		
CASH FLOWS FROM OPERATING ACTIVITIES			
Payments			
Employee entitlements and other employee related expenses		-	(5,550)
Goods and services		(255)	(3,600)
Grants and Transfers		(924)	(598)
Transfers to Interim Waste Committee	10	(1,365)	-
Interest and other costs of finance		-	(1)
Receipts			
Fees and charges		1,200	1,496
Recurrent Appropriations		-	-
Business Franchise Fees - Replacement Revenue		-	3,316
Transfer from the Department for Environment, Heritage and Aboriginal Affairs		-	5,045
Balances of former LR&WMB	10	1,365	-
Interest income		58	128
Other revenues		-	317
Net Cash used in Operating Activities		79	553

		\$'000	\$'000
		Inflows	Inflows
		(Outflows)	(Outflows)
	Note		
CASH FLOWS FROM INVESTING ACTIVITIES			
Payments - Purchase of non-current assets		-	(282)
Net Cash used in Investing Activities		<u>-</u>	<u>(282)</u>
CASH FLOWS FROM FINANCING ACTIVITIES			
Payments			
Transfer to the Department for Environment, Heritage and Aboriginal Affairs	10	(2,788)	-
Receipts			
Net Cash used in Financing Activities		<u>(2,788)</u>	<u>-</u>
Net Increase/Decrease in Cash Held		(2,709)	271
Cash at the Beginning of the Reporting Period		3,522	3,251
Cash at the End of the Reporting Period	7	<u>813</u>	<u>3,522</u>

The accompanying notes form an integral part of these accounts.

Objectives and Funding

Objectives

The major objectives of the Environment Protection Authority (the Authority) are to establish environment protection standards and policies, to improve, protect and monitor water and air quality, to regulate waste management and promote waste minimisation practices, to promote cleaner production techniques, and to regulate industrial emissions.

The Authority also is responsible for the administration of the Environment Protection Fund, in accordance with the *Environment Protection Act 1993* (the Act).

Changes to Funding Arrangements

During the financial years 1996-97 and 1997-98, the administration of the Act was funded through the Environment Protection Fund, with revenue earned under the Act being transferred from the Department for Environment, Heritage and Aboriginal Affairs (DEHAA) into the Fund.

From 1 July 1998 the funding arrangements for the administration of the Act changed subsequent to an internal restructure within DEHAA. Under the revised arrangements the Department directly meets the cost of administering the Act and consequently the financial activity of the Environment Protection Fund is restricted to those monies directed through the Fund as specified under the Act and various other arrangements.

In addition, the Minister approved the transfer of cash, loans receivable, property, plant and equipment, and other minor balances as at 30 June 1998 to DEHAA. This transaction has been included as an abnormal item and is disclosed in note 10.

Fund Purpose

Subsection 24(1) of the *Environment Protection Act 1993* established the Environment Protection Fund.

Subsection 24(1) of the *Environment Protection Act 1993* provides that the Fund may be applied by the

Minister or by the Authority with the approval of the Minister (without further appropriation than this subsection):

in making any payment required in connection with a financial assurance under Division 5 or Part 6; or

in making any payment required by the terms of an environment performance agreement under Part 7; or

in making payments for or towards the cost of action to deal with an environment emergency or its effects; or

for the purposes of education and training programmes in relation to the protection, restoration or enhancement of the environment; or

for the purposes of any investigations, research, pilot programmes or other projects relating to the protection, restoration or enhancement of the environment; or

towards the cost of administration of this Act.

Current Financial Arrangements

The Environment Protection Fund's sources of funds consist of a prescribed percentage of fees, licences and levies charged under the Act, fines and expiation fees, interest revenues, sundry charges for services to the public and industry.

The Environment Protection Fund is an interest bearing Deposit Account pursuant to subsection 21(1) of the *Public Finance and Audit Act 1987*.

In accordance with the provisions of the Environment Protection Act the Authority has delegated certain powers and functions to officers within the Environment Protection Agency (EPA). The EPA is one of the six operational groups of the Department for Environment, Heritage and Aboriginal Affairs (DEHAA).

The EPA is responsible for providing the necessary technical and administrative resource support to the Authority.

The direct costs of providing these services are provided by the EPA at no charge to the Authority. These services and facilities provided by EPA at no charge include the use of certain items of plant and equipment, and various administrative services.

Significant Accounting Policies

Basis of Accounting

The financial statement is a general purpose financial report, and has been prepared in accordance with Statements of Accounting Concepts, Australian Accounting Standards, Treasurer's Instructions and Accounting Policy Statements issued by the Department of Treasury and Finance, and in a manner consistent with the requirements of the Act.

The financial report has been prepared on the accrual basis of accounting. Accordingly revenues are recognised when they are earned or when the Authority has control over them, rather than when they are received and expenses are recognised when they are incurred, rather than when they are paid. Some revenues are recognised when cash is received because only at this time can the Authority be certain about the amounts to be collected. These revenues include items such as licence and accreditation fees.

Property, Plant and Equipment

All plant and equipment on hand at 30 June 1998 have been transferred from the Fund to the Department for Environment, Heritage and Aboriginal Affairs.

Income Recognition

All revenues are recorded in the Operating Statement. Grants, donations and other contributions are recognised as revenues when the Authority obtains control over the assets comprising the contributions. Control over granted assets is normally obtained upon their receipt.

Authorisation Revenues, comprising licence, exemption and accreditation fees are recorded in their entirety as revenue in the period in which the Authority obtains control over the assets comprising the fees. Control over such fees is normally obtained when commitments to renew authorisations are received from users of the Authority's services.

All other revenues are accrued in the period in which they are earned.

Cash and Bank Balances

Deposit Account balances are at call amounts, which earn interest at a rate determined by the Treasurer. Interest is received quarterly in arrears. The average effective interest rate for the reporting period was 4.88%.

Receivables

Receivables in respect of fees and charges are recorded at their recoverable amount. At the end of each reporting period, receivable balances are reviewed and a provision is raised in respect of any balance where recoverability is considered doubtful. Bad debts are written off in the period in which they are identified. Credit risk therefore is confined to the amount set aside as provision for doubtful debts. The resulting carrying amount of receivables is considered to approximate their net fair values.

The "fees and charges" receivables figure at 30 June 1999 is comprised of the waste levies due in respect to Kerbside Recycling (\$76,279) and the South Australian Employers Chamber of Commerce and Industry agreement (\$21,615) and the 5% statutory percentage of fees and charges due under the Environment Protection Act.

The Authority does not have any significant exposure to any individual customer, thus its credit risks are due to its customer base being influenced by the South Australian economy.

Employee Entitlements and Other Employee Related Provisions

Employee entitlements and other employee related provisions are not reflected in the financial statements of the Environment Protection Fund, as the officers providing the necessary technical and administrative support

to the Authority are employed by DEHAA. As a consequence such provisions are reflected in the financial statements of DEHAA.

Accommodation

DEHAA has contracted with external parties for the provision of office accommodation for the officers providing the necessary technical and administrative support to the Authority. As such, the obligations for future operating lease payments rests with DEHAA.

Cash Flows

For the purpose of the Statement of Cash Flows, cash includes cash on hand, Deposit Accounts with S.A. Department of Treasury and Finance, and cash in transit.

Rounding

All amounts are rounded to the nearest thousand dollars.

Output Classes

The Authority operates solely in the Output Class area of Environment Protection, thus no further information is provided as the expenses, revenue, assets and liabilities attributable to that Output Class is set out in the Operating Statement and the Statement of Financial Position.

Goods and Services

	1999	1998
	\$'000's	\$'000's
Goods and service expenses for the reporting period comprised:		
Accommodation and service expenses	-	963
Travel Expenses	-	146
Materials and consumables	-	151
Publications, reports and advertising	34	207
Hazardous Waste Disposal	-	239
Vehicle expenses	-	155
Contractor expenses	-	773
Consultancies	2	301
Computing expenses	-	203
Audit Fees	14	43
Legal Fees	-	59
Minor plant and equipment	-	34
Other	6	258
Total	56	3,532

Grants and Transfers

	1999	1998
	\$'000's	\$'000's
Grant expenses for the reporting period comprised:		
Cleaner Production Grants	-	316
Waste Levies remitted or due to SAECCI *	211	222
Waste Levies remitted or due to LGFA #	649	-
Other	-	101
Total	860	639

* South Australian Employers' Chamber of Commerce and Industry Inc.

Local Government Finance Authority—Interim Waste management Committee for Kerbside Recycling

Fees and Charges

	1999	1998
	\$'000's	\$'000's
Fees and charges for the reporting period comprised:		
Prescribed percentage of licences and levies	408	423
Fuel Levy	-	684
Waste Levy Receipts	860	222
Total	1268	1329

Cash and Bank Balances

	1999	1998
	\$'000's	\$'000's
Special Deposit account with the Treasurer	813	3522
Total	813	3,522

Receivables

	1999	1998
	\$'000's	\$'000's
Current		
Fees and charges	122	52
Cleaner Industry Development Scheme Loans	-	53
Accrued Interest Income	12	11
Other	-	3
Total	134	119
Non-current		
Cleaner Industry Development Scheme Loans	-	396
Total	-	396

Payables

	1999	1998
	\$'000's	\$'000's
Current		
Creditors	197	176
Accruals	13	313
Total	210	489

Abnormal Items

	\$'000's
Receipts from former Local Government Recycling and Waste Management Board liquidator (a)	1,365
Payments to the Interim Waste Management Committee Trust account (a)	(1,365)
Transfer of funds (b)	(3,604)
	<u>(3,604)</u>

(a) The cash assets of the former Local Government Recycling and Waste Management Board, totalling \$1,365,367, were paid into the Environment Protection Fund and subsequently paid to the Interim Waste Management Committee Trust account at the Local Government Finance Authority.

During the 1998-99 reporting period, funds totalling \$3,603,728 which related to projects and cash balances (\$2,787,870) no longer controlled by the Authority, were transferred from the Environment Protection Fund to the DEHAA Deposit Account.

Remuneration of Auditors

Amounts paid or due and payable to the Auditors for auditing the accounts for the year were \$14,000.

Consultancies

The cost of consultancies engaged by the Authority using the Environment Protection Fund during the course of the year amounted to \$2,000.

Remuneration of Authority Members

	1999	1998
	Number	Number
The number of Authority members whose remuneration received or due and receivable fell within the following bands:-		
\$NIL	1	1
\$1 - \$10,000	4	4
\$10,001 - \$20,000	1	1

Authority members fees are paid by the Department for the Environment, Heritage And Aboriginal Affairs.

Equity

Equity represents the residual interest in the Authority's net assets. The South Australian Government holds the equity interest in the Authority on behalf of the community.

	Accumulated Surplus	
	1999	1998
	\$'000's	\$'000's
Balance at the beginning of the period:	3,931	3,643
Surplus/(deficit) during the period	(3,194)	288
Balance at the end of the period:	<u><u>737</u></u>	<u><u>3,931</u></u>

Reconciliation of Net Cash provided by Operating Activities to Operating Surplus (Deficit) after Abnormal Items

	1999	1998
	\$'000's	\$'000's
Operating surplus (deficit) after abnormal item	-	288
Operating (surplus) deficit before abnormal item	410	
Depreciation	-	64
Movements in assets and liabilities:		
(Increase)/decrease in receivables	(69)	161
(Increase)/decrease in inventories	-	(17)
(Increase)/decrease in other assets	17	(12)
Increase/(decrease) in payables	(279)	2
	<u>79</u>	<u>553</u>
Net Cash provided by Operating activities	<u><u>79</u></u>	<u><u>553</u></u>

Year 2000 Disclosure

As detailed in note 1 to the financial statements, DEHAA provides professional, technical and administrative resources to the Authority. These resources include all necessary information technology equipment and software, as well as maintenance of all supplier relationships. As such the Authority is dependant upon the Department addressing year 2000 risks.

The Authority has been advised by the Department that steps have been taken to address the year 2000 risks for all crucial business systems.

Whilst every effort is being made to mitigate risks, there can be no absolute assurance that the year 2000 readiness programme will be completely successful.

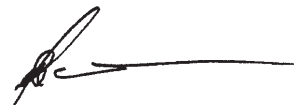
Statement By Authority Executive

The financial statements and notes to the statements are to the best of my knowledge drawn up so as to present fairly, in accordance with Statements of Accounting Concepts, applicable Accounting Standards and the *Public Finance Audit Act 1987*, as amended, the financial position of the Environment Protection Fund as at 30 June 1999 and the result of its operations and its cash flows for the year then ended.



EXECUTIVE DIRECTOR , EPA

Date...10/9/99.....



FINANCIAL ACCOUNTANT, EPA

Date....9/9/99.....