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OUR COUNTRY OUR FUTURE

Statement on the Environment
The Hon. R. J. L. Hawke, A.C.
Prime Minister of Australia
July 1989

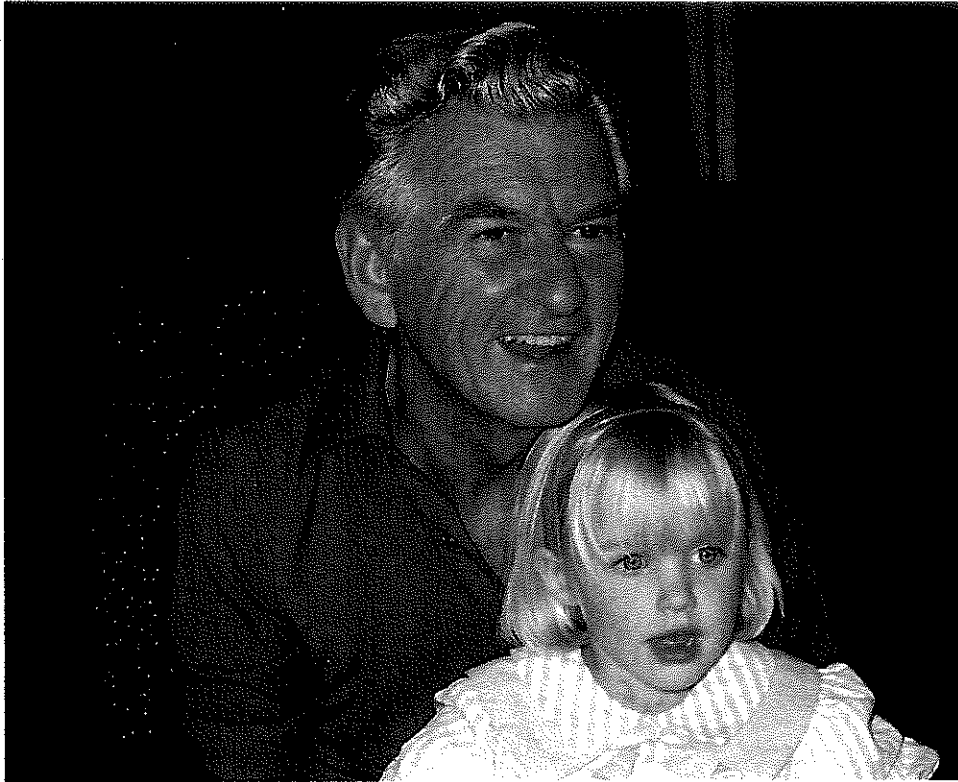
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OUR COUNTRY
OUR FUTURE



Nor should our efforts stop at Australia's coastline. We will be taking a lead in developing international conventions on climate change and on biological diversity. Australia will do everything in its power to ensure Antarctica remains free of mining. We will be seeking a global ban on the barbarous practice of driftnet fishing. And we will be urging faster international action on the phasing out of chlorofluorocarbons while picking up the pace at home.

We have taken too much from the Earth and given back too little. When the Earth is spoiled, humanity and all living things are diminished. The announcements in this statement won't put an end to that. But they'll help. With the right mix of political commitment and community support we can ensure that our country is simply the best in the world.

This is our country, our future. I give my commitment to the children of Australia that my generation will hand on to you a better country, a brighter future.

Bob Hawke

FOREWORD

The world's natural environment is under siege. In just over 200 years since the Industrial Revolution, human activity has increased the Earth's temperature, raising the spectre of the greenhouse effect. Massive areas of the world's tree cover have been destroyed and we are obliterating thousands of living species. We have polluted the world's oceans, seas and rivers, degraded the Earth's soils, damaged the fragile Arctic and Antarctic environments. Rainfall in Europe and North America contains industrial acids. We have managed to punch a hole in the ozone layer.

Our country is one of the luckiest, escaping some of the world's greatest environmental traumas - persistent eye-watering smog, acid rain, the disasters at Chernobyl and Bhopal, the blight caused by population pressures.

We have many magnificent environmental treasures - the Great Barrier Reef, the Queensland rainforests, the Tasmanian forests, Kakadu National Park.

Australians already have some proven successes in protecting our environment. The Franklin runs free, our World Heritage sites are a source of national pride, greenhouse research is being funded, and we are taking measures to protect the ozone layer.

But we have our environmental problems, and many of them are serious. This statement provides new impetus and new directions in tackling those problems.

The statement announces a package of measures costing over \$320m to attack the problem of soil degradation in this country and launches the Year and the Decade of Landcare.

One Billion Trees is a program for the re-greening of Australia. It provides for the planting of one billion trees by the year 2000.

We must save those important remnants of native vegetation on our farming lands. The statement announces a Save the Bush remnant vegetation program.

Of course, Australia needs a healthy, viable forest industry. That viability must increasingly be based on plantation development, to ease the burden on our virgin native forests. The Government's National Afforestation Program will be applied to this task - and our forest strategy will be informed by the work of the newly established Resource Assessment Commission.

The Government has developed a new program to reduce the threat of extinction faced by our many endangered species.

The nation's environmental concerns do not end at the urban fringe. Pollution in our cities, preservation of our urban cultural heritage, the environmental strains caused by often haphazard coastal development - all of these are the subject of new Federal Government measures.

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1. A CONTINENT AND A PLANET UNDER STRESS

The outlook for succeeding generations is indeed dismal should the destruction of the forests continue as in the past; our watersheds will become bare, bald hills, from which torrential floods will devastate the alluvial plains ...

...the preservation of our indigenous flora, whilst looked upon as a fad by the ignorant and unthinking, is really in its cumulative effects one of great national importance.

Samuel Dixon in a paper read to the Royal Society of South Australia, 1892.

When the naturalist Joseph Banks landed at Botany Bay with Captain Cook in 1770, he was astonished by the uniqueness of Australia's landscape. In the brief four months of his voyage along the East coast, he and his helpers identified a vast array of new species of flora and fauna.

Nonetheless, to Banks and other early European visitors, Australia seemed a harsh and uninviting land. Yet when Banks arrived, Aborigines had lived here for at least 40,000 years. Their semi-nomadic subsistence lifestyle was based on a thorough understanding of the land and, with the exception of uncontrolled burning, generally had little impact on the environment.

But too often since 1788 short term productivity has been sought at a cost to long term sustainability.

Misjudgements about the consequences of various land management practices and unregulated industrial development have been compounded by an unfortunate conjunction of natural circumstances. These include the fact that only 10 per cent of the Australian continent is arable, soils are of low physical and chemical fertility and rainfall is of high variability. In addition, fluctuations in commodity prices have led some primary producers to exploit the land and forsake good land management for quick gain or to avoid financial ruin.

In some cases, government policies, including land settlement schemes on small and unviable holdings, and tax incentives for land clearing, have exacerbated environmental problems. In other cases, the inadequacy or lack of government policies - for example the failure to stop or regulate polluting emissions - has had the same effect.

An Exploited Land

The Australian environment has been degraded severely by the impact of these past 200 years. Soil erosion over much of the continent has risen to ten times the natural geological rate. Nearly two-thirds of the continent requires treatment for land degradation. Forest cover, just 10 per cent when European settlement began, has been halved. More than 41 million hectares of forest have been destroyed, including 75 per cent of the nation's rainforests.

More recently, the scale of recreational and tourist activities has begun to place heavy pressure on our natural heritage. This is particularly the case in environmentally fragile areas, such as beach dune systems and alpine areas.

Serious air and water pollution has occurred in and around urban areas. Today, our capital cities and major towns contain 80 per cent of our entire population, placing enormous strains on our urban and coastal environments.

The financial cost of this environmental despoliation has become enormous. On top of lost productivity caused by land degradation, for example, are costs related to water treatment, river and harbour dredging, research programs, increased fertiliser use, road maintenance and other engineering works.

It is virtually impossible to place a cost estimate on the degradation, depletion or loss of resources such as clean air, pure water and tree cover, or the extinction over the past 200 years of more than 100 species of Australian animals and plants.

The Global Context

The devastation that can be caused by modern day environmental accidents has been shown by tragedies such as the pesticide leak at Bhopal in India and the Exxon Valdez oil spill in Alaska.

Environmental problems do not stop at national borders. The threat of global warming, the depletion of the ozone layer, the nuclear accident at Chernobyl in the Soviet Union, all bear witness to the need for global perspectives and global solutions.

A Time To Take Stock And Plan Ahead

The threat posed by continuing environmental deterioration is no longer hypothetical, and it has serious economic and social implications for the future.

We have little time to spare. The cumulative effects of past mistakes in our care for the environment are still to emerge fully, and to proceed with ignorant and unthinking ways risks further irreparable damage.

We cannot continue to squander the Earth's assets. If we are to leave a viable future for our children we must better understand the planet, and make a conscious decision to protect and live in harmony with it.

2. PRINCIPLES AND OBJECTIVES

In deciding how to meet the threat to the future posed by environmental degradation, three basic questions need to be answered:

- Why is the environment important?
- What objectives and principles should guide the Government's decision making?
- What methods should be used to achieve these objectives?

Why is the Environment Important?

The environment ultimately sustains all life. Plants and animals provide us with food, clothing, shelter, labour, transport, pharmaceuticals and companionship. Many species as yet unutilised form a genetic reservoir which may be of immense benefit to humanity in the future.

At a minimum, environmental damage will lead to a decline in the quality of life as land ceases to become productive, toxic wastes harm health and the environment loses its natural beauty. Ultimately, environmental destruction means not only plant and animal destruction but also the end of humanity.

The world's resources are finite and ecosystems around us have a limited capacity to regenerate after damage. After a certain point, regeneration of natural ecosystems is impossible.

Preservation of the environment should be underpinned by more than just human-centred survival or economic or aesthetic considerations. While plants and animals are useful we, as their custodians, have a responsibility towards their preservation. Plants and animals have intrinsic value in and of themselves and many people believe that, as such, they have a right to survive and that we have a moral obligation to preserve them.

Individuals differ in their reasons for preserving ecosystems and their component parts. Yet all reasons point to the same conclusion - the environment is critical and given its present state, greater efforts are needed to protect it.

What Principles Should Guide Us?

We have a responsibility, to future generations as well as our own, to preserve the unique ecosystems of this ancient continent and to play our part in maintaining the Earth's biological diversity.

Most Australians put a high value on economic development and growth, so that everyone in the community can enjoy a better standard of living.

A 'no growth' policy may have attractions for some who are fortunate enough already to enjoy a comfortable standard of living. It is not a policy which is likely to be favoured by those who have difficulty in meeting their basic needs. It is clearly not an option for the poorer countries who live at the very edge of survival. Poverty itself is a major source of our environmental problems.

Fortunately, the challenge in front of us is not a stark choice between preserving the environment and economic growth. As the World Commission on Environment and Development (the Brundtland Report) has pointed out, we have the ability to make development ecologically sustainable. The task is to ensure that we meet the needs of the present without compromising the ability of future generations to meet their needs.

We need to take much better account than we have in the past of the environmental impact of our activities. When decisions on economic developments are being made, full weight must be given to the costs to society of proposed activities, as well as the benefits.

Ecologically sustainable development means economic growth that does not jeopardise the future productive base. Renewable resources are managed so that they are not permanently depleted. In some cases the use of particular technologies or processes may be so damaging that they should be banned.

Only rarely will it be necessary to take such pre-emptive action. In most cases it will be sufficient to temper the way in which projects proceed or technologies are applied to ensure that our future productive base is not impaired.

Decisions of this kind do not reduce our national well being. Rather they are a recognition that the quality of our life, and that of future generations, depends on living within the productive capability of our environment.

The Australian Government recognises the fundamental link between economic growth and the environment. It recognises that environmental aspects are an integral part of economic decisions. It is committed to the principle of ecologically sustainable development.

Following extensive consultations with a wide cross section of Australian society the National Conservation Strategy for Australia was developed in 1984. In 1988, when announcing the establishment of the Resource Assessment Commission, three principles to underlie the Government's decisions on resource use issues were also announced. These principles drew on the National Conservation Strategy, and provide the basis for this Government's actions.

NATIONAL CONSERVATION STRATEGY FOR AUSTRALIA

In 1984, the Government gathered representatives from a wide cross section of Australian society to forge a National Conservation Strategy for Australia. The objectives they agreed to were:

- to maintain essential ecological processes and life support systems
- to preserve genetic diversity
- to ensure the sustainable utilisation of species and ecosystems
- to maintain and enhance environmental qualities.

This Government continues to endorse these objectives as providing the basis for ecologically sustainable development.

PRINCIPLES FOR DECISION MAKING

In translating these broad objectives into day-to-day decision making, the Government in 1988 set the following guidelines for Ministers:

- there should be an integrated approach to conservation (including all environmental and ecological considerations) and development by taking both conservation and development aspects into account at an early stage
- resource use decisions should seek to optimise the net benefits to the community from the nation's resources, having regard to efficiency of resource use, environmental considerations and an equitable distribution of the return on resources
- Commonwealth decisions, policies and management regimes may provide for additional uses that are compatible with the primary purpose values of the area, recognising that in some cases both conservation and development interests can be accommodated concurrently or sequentially, and, in other cases, choices must be made between alternative uses or combinations of uses.

How do we Give Effect to These Principles?

By Government Regulation and Law ?

Inappropriate human behaviour is the fundamental cause of almost all environmental problems. Governments can pass laws which punish inappropriate behaviour or encourage 'good' behaviour, but they cannot compel good behaviour.

Laws, if they are to be capable of being enforced, must be acceptable to a large proportion of society. Society would not readily accept government regulation which, for example, limited the amount of petrol or electricity which an individual could use. Yet vehicle emissions and carbon dioxide from electricity generation produce a large proportion of Australia's greenhouse gas emissions.

In some cases, legislative controls will be the best way of protecting the environment. More often, a more effective and equitable approach will be to make the individual and the community more conscious of the environmental costs of their actions. This can be done by economic means - the so-called 'polluter pays' principle - and by better education and community pressure.

By Economic Incentive?

Many of our environmental problems arise because market prices do not reflect the full costs of various human activities. Changes to prices can have powerful, immediate effects on how people use resources.

A fundamental principle which can be applied is that each producer and consumer should be responsible for the costs which their activities impose, not only on themselves, but also on the rest of society, both current and future generations. Changes can be made to royalties, charges, taxes and the assignment of property rights as knowledge about the environmental impact of human activity grows.

But this approach, that the 'polluter pays', can be handicapped by incomplete knowledge of the long term effects of some activities and by difficulties in identifying the source of some pollution. In some cases it is not possible or perhaps simply not feasible to identify those responsible. For example, it is difficult to place an economic value on genetic diversity.

It is vital also that governments ensure that they are not inadvertently encouraging environmental damage through tax concessions, subsidies or other special assistance.

By Education ?

All Australians need to be better able to act responsibly in their day-to-day lives, and better able to make informed judgements about environmental issues.

Ignorance about the consequences of apparently innocent or even well intended actions has been the cause of many of our current problems. The introduction to the Australian environment of the cane toad, rabbits, foxes, the European carp, prickly pear - to name but a few - have all had very serious consequences for native flora and

fauna. But each was introduced with essentially innocent and sometimes good intentions.

While knowledge alone will not ensure a change in behaviour, the Government will increase its production of accurate and relevant information on environmental and nature conservation issues and on the role the community can play in working with governments at all levels.

The Government is also committed to promoting a high standard of environmental research in Australia's higher education system. In addition the Commonwealth, in co-operation with State governments, will examine ways of increasing awareness and understanding of our global environment in all Australia's schools.

Such co-operation will ensure that through a conscious national effort, we can pass on to our children a healthier and more sustainable environment.

By Actions of Individuals ?

Many significant environmental problems arise as a direct result of individuals living normal lives. For example, motor vehicles are the major source of pollution in our cities. And the amount of pollution generated in our society is very closely related to the amount of energy we consume - in our homes, our offices, and our places of entertainment, as well as in our factories and transport facilities. Relatively small changes in the way we do things or in the products we buy can have significant beneficial impacts.

Ultimately our success in tackling Australia's environment problems will depend on the willingness of each citizen to act in a more environmentally responsible fashion.

The Commonwealth Government provided the Australian Conservation Foundation with financial assistance to print posters and other materials on global environmental issues. A Personal Action Guide to conservation has also been produced by the Commission for the Future. Both advise individuals on actions which can contribute to a more sustainable future.

By Co-operation ?

The dimensions of many environmental problems are such that they can only be addressed by co-operative action - both between individuals and governments. The land degradation and water quality problems in the Murray-Darling Basin can only be resolved by co-operative action between the Commonwealth and the States involved. Experience has shown that the land degradation at a local level is very often most effectively and efficiently controlled by co-operative action across several properties.

With many of our most pressing problems - the threat to the ozone layer, greenhouse gas emissions, the threat to international fisheries and migratory species generally to name but a few - international co-operation will be required to achieve a solution.

The Environment is a Shared Responsibility

No single approach will provide the solution to preserving our environment. The Government can inform the community about the nature and extent of our environmental problems and ensure that its taxes, charges and laws provide a framework for responsible behaviour.

If each individual appreciates the consequences of his or her actions, reacts to appropriate laws and is confronted with the full cost of his or her decisions, we are much more likely to achieve the goal of an ecologically sustainable society.

Without co-operation at local, State, Commonwealth and international levels, and without the support of the community, many of our more significant problems will remain unresolved.

3. MECHANISMS FOR CHANGE

The Role of the Commonwealth

Under the Australian Constitution, the States and Territories have primary responsibility for protecting and regulating the environment. But because of its constitutional powers relating to such matters as foreign affairs, trade and commerce and foreign investment, the Commonwealth also has a role in relation to the use of resources. Both present and past Governments have used these powers to protect the environment and to set conditions controlling resource use.

The Environment Protection (Impact of Assessment) Act, passed in 1974, provides significant protection to the environment where development proposals require approval by the Commonwealth. The decision to make approval of the Wesley Vale pulp mill project conditional on the satisfactory completion of further environmental studies and agreement on appropriate operating guidelines was taken under this Act.

The Australian Heritage Commission Act of 1975 allows the preparation of a Register, or inventory, of all parts of Australia's natural and cultural heritage. The Act requires the Commonwealth Government to avoid or minimise damage to places in the Register arising from its own actions wherever there are feasible and prudent alternatives, and to inform the Australian Heritage Commission about any of its actions which might affect a registered place to a significant degree.

Australia was one of the first countries to ratify the Convention concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention) in 1975. The World Heritage Properties Conservation Act 1983 protects and conserves those places in Australia or under Australian control that are of such outstanding universal value that they are recognised as part of the cultural or natural heritage of the world. The Act prohibits action which might damage or destroy World Heritage values.

The Commonwealth has exercised its World Heritage powers to override State opposition on three occasions: protecting the Franklin and Gordon Rivers in Tasmania (1983), establishing the Lemnathyme and Southern Forests Commission of Inquiry (1987), and securing the World Heritage listing of the Wet Tropics of North East Queensland (1988).

The Commonwealth National Parks and Wildlife Conservation Act of 1975 provides for the establishment and management of national parks and other parks and reserves. It also provides for the protection and conservation of wildlife including co-operative programs with the States. Importantly, this Act applies to marine areas out to the edge of the continental shelf and to all the External Territories including the Australian Antarctic Territory. A key feature of this Act is its extensive provision for the involvement of Aboriginal people in managing relevant parks and reserves. The Act also provides for implementation of international conservation agreements to which Australia is a party.

Other legislation provides protection for whales, dolphins and porpoises; controls exports and imports of endangered species, regulates the export of Australian native animals and plants, and controls the import of live animals to prevent establishment of further pests that could damage the Australian environment.

The Ozone Protection Act which became law on 16 March 1989, provides for the control of the production, import and export of ozone depleting chemicals. The legislation will also enable a ban to be placed on the manufacture and import of aerosols containing chlorofluorocarbons, except for essential uses, after the end of 1989. The Government has made it clear that the Act is only the beginning of Australia's legislative effort to protect the ozone layer.

The Government recognises the need for a co-ordinated approach to resource management issues. Laws to provide for responsible resource management and to meet Australia's international obligations include: legislation designed to prevent over-exploitation of Australia's fishing resources; to protect the living resources of the Continental Shelf; to conserve the living resources of the sea and protect the sea bed beyond the three mile zone; and to establish the Resource Assessment Commission to advise the Government on environmental and resource issues.

In addition to legislative arrangements, the Commonwealth has established agreements such as the River Murray Waters Agreement to encourage effective and improved resource management between States and the Commonwealth.

One of the few Commonwealth powers in the Constitution expressly protecting the natural environment is the quarantine power - protecting Australia from exotic diseases, and noxious plants and animals. This Government's clear preference is to work with the States on environmental protection. It believes that protecting and improving our environment is an urgent national task that needs a co-operative national strategy.

Many of the environmental problems we face today do not respect State and Territory boundaries, and cannot be resolved piecemeal. Increasingly the Australian community and investors are demanding national approaches to major environmental issues. They need to be certain that the Commonwealth can respond quickly to national or global environment problems. They do not want as many systems for dealing with these problems as there are States and Territories.

Given the record of constitutional reform in this country, the Government believes that there should be wide-ranging community debate to increase awareness of national environmental issues. If and when that awareness has reached a sufficiently high level, the Government would consider proceeding with a referendum addressing the constitutional powers of the Commonwealth over the environment. The Government naturally would prefer to go to the people with bipartisan support.

One of the matters which the Government wishes to advance with the States is the development of agreed national minimum environmental standards. These standards would address matters affecting air, water and noise quality. The Commonwealth

will be discussing with the States through Commonwealth-State Ministerial Councils ways in which these standards can be achieved.

The Government also believes that there is a need for a better understanding in the business community - both in Australia and overseas - about the Commonwealth and State processes for obtaining approvals for projects that may have a significant impact on the environment. We will be examining the approvals process for major development projects with a view to improving both its definition and its timeliness.

In its own deliberations the Government is ensuring that environmental considerations are integrated into its economic decisions.

Cabinet submissions on matters that have significant environmental implications will be required to explain the environmental issues.

In recognition of the importance of environmental considerations to the structural adjustment of the Australian economy, the work program of the Structural Adjustment Committee of Cabinet will pay particular attention to developing an integration of environmental and economic objectives. The Minister responsible for the environment will be a member of the Structural Adjustment Committee.

Information, Research and Analysis

Data Bases

Intelligent and informed decisions about environmental management require a good understanding of the complex ecosystems upon which the future of our productive capacity ultimately rests. Because the Australian environment is unique, we must rely upon Australian-based environmental research efforts for our information needs.

Environmental protection requires accurate information on land use, environmental conditions and resources to enable an assessment of the likely consequences of any particular action. At present the level of knowledge about many of our ecosystems and about the interaction between parts of our physical environment is either limited or widely dispersed. This reduces our capacity to make informed natural resource management decisions, especially when assessing the relative impacts of different land uses.

The Government in 1988 established the National Resource Information Centre (NRIC) and provided funding to develop a Forests Inventory. The Government has now decided to fund an Environmental Resources Information Network to draw together, upgrade and supplement information on the distribution of endangered species, vegetation types and heritage sites. The project will receive \$1.8 million this year and \$2.1 million next year.

The Environmental Resources Information Network will be closely linked to and involve the Australian Biological Resources Study (ABRS), with a component of project funds being provided as grants through the ABRS.

These information systems are taking advantage of computerised geographic information system technologies that enable many different data types to be assessed

and integrated. All this will involve close co-operation with the States and Territories who have significant holdings of material. NRIC is currently negotiating access agreements with two of the States and others are under discussion.

Environmental Research

Having information about our environment is not sufficient to make resource decisions. It is necessary for environmental researchers to interpret the information. An important part of our approach will be to ensure that viable areas of representative ecosystems are preserved.

Environmental research is undertaken by many agencies within Australia. Ways need to be found to identify gaps in our environmental research effort, agree on priorities and ensure that research findings are incorporated quickly and effectively into policy making processes.

To this end, the Government has commissioned the Australian Science and Technology Council (ASTEC) to undertake a comprehensive review of environmental research in Australia and to recommend strategies to address deficiencies in research effort. ASTEC will be working closely with all those agencies involved in environmental research and will report back to the Government by June 1990.

Monitoring and review of all activities is critical to their success and will be an ongoing component of all environmental initiatives.

The Resource Assessment Commission

A major initiative on the part of the Commonwealth Government to promote better resource decisions is the establishment of the Resource Assessment Commission. The Commission has been set up as an independent body with an extremely broad mandate to investigate resource issues referred to it by the Government. It is a body which can undertake open, informed evaluation of different aspects of those issues, and which has great freedom as to how it makes its assessments. The Government has provided the Commission with a set of guidelines which ensures that it focuses on both the environmental and resource development dimensions in its inquiries.

The Commission's inquiries will almost always be into those resource issues which are complex and contentious. They are likely to deal with the resource industries that are of great significance for the economy and the environment.

The Government has already announced that it will refer Australia's forests and timber resources to the RAC as its first inquiry. The Government has now decided that, in view of the environmental and economic importance of Australia's coastal zone, the Resource Assessment Commission will be asked to inquire into the use of coastal zone resources, and will be given extra resources to do so.

The Commission and its inquiry process will make an important contribution to better community and government understanding of major, complex resource issues and hence their resolution.

Consultation and Collaboration

The Government believes it is important, wherever possible, to develop its environmental policies and strategies through consultative and collaborative processes. This approach was foreshadowed last November in statements on conservation and development.

The main avenue for consultation with the State and Territory governments will be through existing Councils of counterpart Ministers.

But as the Government acknowledged last year this approach can be too compartmentalised and fragmented to deal with complex issues that concern both environmental and development portfolios.

The Government has already proposed to the States and the Northern Territory the establishment of a consultative group that would consider environment and development issues in a broader and more integrated way. Such consultations would facilitate joint studies and the development of a national approach to managing our environment. The Government proposes to invite State and Territory governments to an initial meeting later this year.

The Government has also written to industry, union and conservation representatives proposing the establishment of a forum that will enable discussion of their concerns in a constructive way with a view to narrowing and resolving differences to the greatest extent possible.

International Action

Working Through An International Framework

Many of our environmental problems are global in their dimension and can only be tackled successfully by nations working together through international organisations. Examples are the prospect of global warming induced by the greenhouse effect, the damage done to the ozone layer by chlorofluorocarbons and halons, acid rain, the loss of biological diversity, transfrontier pollution and disposal of wastes and the over-exploitation of the world's ocean fisheries.

The pressing need for a collaborative approach is now virtually unchallenged. The environment is now a major item on the agenda of many international organisations including the United Nations, the Organisation for Economic Co-operation and Development and Commonwealth Heads of Government. But the difficulties in developing a consensus on an approach which would be effective in protecting the environment, and to which all nations would be committed, remain formidable.

As with other international issues, there is a range of views on the causes of environmental problems; how they should be tackled; when action should be taken and who should take it. Developing countries, in which the great majority of the world's population lives, have different perceptions and different priorities to those of the developed countries on resource use questions.

Developed countries industrialised at a time when there was little pressure for environmental considerations to be taken into account. Most developing countries, on the other hand, are still in the early stages of industrialisation. From their point of view there is no real alternative but to pursue industrial development. And they are likely to be reluctant to forego the economic benefits of technologies and processes which have assisted the development process elsewhere. It would not be surprising if the poorer countries in particular were to give economic progress priority over the environment in the short term.

Yet efforts by the developed world to increase the environmental accountability of industries and individuals will be seriously eroded if developing countries do not adhere to similar standards.

If international action to combat environmental damage is to have the support of all, a major issue which will need to be addressed is the question of assistance, both financial and technical, for those countries which would bear special costs or burdens as the result of new international agreements to limit global environmental damage. One way of offsetting these costs, at least in part, and at the same time providing a long term boost for developing countries' economies is removing barriers to their environmentally acceptable exports.

Australia has played an active role in international environmental matters - both in the United Nations Environment Program and in other relevant international bodies. Australia has, for example, been participating in, and giving strong support to, the work being done in the Intergovernmental Panel on Climate Change, the main forum for considering greenhouse matters. Australia is a party to the Vienna Convention on Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer. Australia has strongly supported international efforts to conserve the Earth's biological diversity and is a party to a number of important conventions designed to protect the world's natural heritage.

But many urgent problems remain and a greater effort is required. The Government has therefore committed itself to strengthening Australia's participation in international efforts to tackle those problems and to encourage other countries to do likewise. This commitment has already resulted in Australia becoming a signatory to the Declaration of The Hague on the Protection of the Atmosphere and the Government's decision not to sign the Antarctic Minerals Convention. In addition:

- the Australian Government will be working intensively within the appropriate forums to develop an international framework convention on climate change
- we will be at the forefront of work towards the development and acceptance of an international convention for the protection of biological diversity
- we will be pressing in discussions with governments around the world for action to stop driftnet fishing and other objectionable practices which are causing alarming reductions of fish and other creatures in our oceans
- we will be working both within international organisations and at the regional level to promote better forestry management practices.

So that Australia is well placed to pursue these important initiatives in a consistent and effective way, the Government has decided to appoint a special Ambassador for the Environment. This will help give Australia a strong and clear voice in the important international debates on environmental issues now taking place.

Australia has also its own national interests to promote and preserve in the international debate, including in the area of natural resource based trade. There is a legitimate area of concern here. It reflects two things. First, Australia has a special economic status as a developed economy, but an export base more akin to one found in the developing world in that we earn our living internationally largely through the export of agricultural and industrial raw materials. Second, increasingly our economic fortunes have been tied to commodity exports to rapidly industrialising economies, especially in Asia.

It is here that the goals of our environment policies and our policies for economic growth are likely to come into conflict.

Australia could find, for example, that markets for products on which it is heavily dependent - coal in particular - are depressed by measures taken to alleviate the greenhouse effect. Our economic prospects could be set back in consequence.

It is therefore important that we work to avoid any hasty and ill-considered international actions intended to ameliorate environmental problems, especially those which might disproportionately penalise Australia.

To state the nature of these problems for Australia is not to offer a complete solution. But to some extent, the impact on Australian producers would be alleviated if countries that are less efficient producers in both the economic and the environmental sense were to cease current subsidisation of their industries. Australia will be strongly arguing for such an outcome.

Aid and the Environment

Many of the most urgent environmental problems are to be found in developing countries. In many instances, people are being forced by poverty to plunder the environment or destroy their heritage to ensure their immediate survival. Australia accepts a responsibility to contribute to international efforts to help protect and repair global environmental degradation and promote ecologically sustainable development.

Through its aid program, Australia has been providing, and will continue to provide, practical assistance to countries to give them the capacity to sustain their development over the long term through agricultural research, education, demonstration and training, and other forms of technology transfer. Australia spent \$1.1 billion on development assistance in 1988-89.

But probably the greatest contribution that the developed world can make to sustainable development in developing countries is to agree to reduce agricultural subsidies and liberalise trade in agricultural products. Australia has been actively

pursuing this goal in the current Uruguay Round of the Multilateral Trade Negotiations.

Australia supports efforts by international assistance organisations to address environmental concerns. Australia also recognises that often progress is likely to occur through co-operative efforts on a country to country basis or at a regional level. Increased efforts will be made to ensure the environmental soundness and long term viability of activities funded under Australia's country aid programs and on a regional basis.

Following a review, the Government is adopting some new guidelines for the overseas aid program. In future, the Australian International Development Assistance Bureau (AIDAB), which administers the program, will:

- effectively integrate environmental protection and resource management into its programs
- implement procedures for assessing and monitoring the environmental impact of development activities which Australia assists
- co-operate with developing countries to strengthen their capacity to anticipate, identify, assess and resolve issues of environmental protection and natural resource management
- promote and support environmentally sound development activities funded by multilateral development institutions
- co-operate with other donors to achieve ecologically sustainable economic development within aid programs.

The new aid and environment policy will provide a basis for the collaborative research programs undertaken by the Australian Centre for International Agricultural Research. In addition, all consultants, contractors, non-government organisations (NGOs) and other bodies involved in implementing Australia's aid program are expected to adopt sound environmental practices.

Many AIDAB projects have important environmental dimensions, such as the provision of clean water and new agricultural techniques. Recently, AIDAB has also sponsored projects that have as their main purpose the improvement of the environment. To do this, AIDAB has drawn on Australian environmental expertise in such areas as forestry, land rehabilitation, pollution control and energy conservation and efficiency.

As part of its new policy on aid and the environment, the Government has now decided to establish, within the aid program, a four year special Environment Assistance Program, worth \$20 million.

FOUR OF AUSTRALIA'S ENVIRONMENT RELATED ASSISTANCE PROJECTS

In the South Pacific, funds (through the South Pacific Regional Environment Program) have been directed for many years at environmental activities including the alleviation of coastal and marine pollution, habitat protection and, more recently, National Conservation Strategies. (See Greenhouse section).

In Ethiopia, Australia has provided food aid for a food-for-work project which aims to provide a base for future agricultural productivity by rehabilitating land currently being degraded through deforestation.

In Indonesia, Australia recently provided advice on the establishment of an independent pollution control/environment protection agency.

In the Philippines, we have provided \$20 million to improve the management of natural resources and use of land.

4. TOWARDS A BETTER FUTURE

4.1. NATURAL ECOSYSTEMS

Biological Diversity

Biological evolution over billions of years has resulted in more than five million living species on Earth today. At current rates of extinction, it is estimated that one quarter of these species are in serious risk of extinction in the next twenty to thirty years.

Humans, more than any other species, have had a profound impact on the environment. Pressure to produce more food and other materials is leading to the destruction of native wildlife habitat and loss of species.

The loss of biological diversity is a global problem which has consequences for all people and all nations. Plants and animals have value in and of themselves but they are also the basis of the ecosystems which support human life. When we lose species we lose a genetic reservoir which is of immeasurable potential benefit to humanity.

Australia will play a leading role in the development of an international convention for the protection of biological diversity which is to be progressed by the United Nations Environment Program in collaboration with the International Union for Conservation of Nature and Natural Resources.

The Government will also prepare a national strategy on biological diversity with a view to developing a biological diversity program. Key elements of the strategy will include the Government's Save the Bush remnant vegetation program (see 4.3), the National Index of Ecosystems currently being developed by the Australian National Parks and Wildlife Service, the Environmental Resources Information Network (see Databases, chapter 3), and the Endangered Species Program (see below).

Endangered Species

While providing considerable economic benefit, the development of Australia has come at a cost to our unique flora and fauna. Since European settlement:

Of a total of almost 200 species of mammals, 18 are known to have become extinct and another 40 are threatened. For mammal extinction, Australia has the worst record in the world.

Out of a total of nearly 16,000 flowering plants, approximately 100 are extinct and almost 3,300 are rare or threatened.

The Government believes it is essential to develop a national strategy to halt the loss of species. As a first step it has appointed an Endangered Species Advisory Committee. The Committee is developing a national strategy for the conservation of species and habitats threatened with extinction for the Government's consideration.

A major objective of the national strategy will be the development of an Australia-wide data base of endangered species, their key habitats and the status of such species both within and outside protected areas. This information will be gathered in co-operation with relevant Commonwealth, State and non-government authorities to assist in the long-term conservation of endangered species and their essential habitats.

Recognising that the conservation of endangered species is the responsibility of all levels of government and the wider community, the Endangered Species Advisory Committee comprises representatives from Commonwealth and State nature conservation agencies, non-government conservation organisations, scientific institutions and the farming community.

The Government has allocated \$2.0 million for each of the first two years of a ten year Endangered Species Program.

Introduced Plants and Animals

A variety of different kinds of plants and animals have been introduced into Australia either by accident or deliberately for economic or aesthetic reasons. While some introduced species have brought with them considerable benefits - for example our farming industries rely on them - they have also displaced or destroyed native species through habitat destruction, competition for resources, predation, or the introduction of parasites and diseases.

The extinction of several small native mammals can be attributed directly to the rabbit and the European fox. A new virus which could have value as control agent for rabbits has been identified in Europe. Commonwealth, State and Territory nature conservation Ministers have agreed to investigate the potential of the virus. In addition, funding for a five year fox control study will be made a priority research area under the Endangered Species Program.

Large numbers of feral horses, pigs, donkeys and goats are causing extensive land degradation. The introduced Asian buffalo has been particularly destructive in northern Australia. The cane toad has become a serious pest and is also spreading across northern Australia. Recent research, funded by the Commonwealth and States into the cane toad problem will be evaluated with the aim of developing an intensified control program. If necessary, the Commonwealth will undertake scientific investigations of a possible biological control agent, as well as studies of the toad in its native South America.

The plant Mimosa has invaded Arnhem Land and other areas of the Northern Territory posing threats to both native wildlife and economic development. Fortunately, as a result of prompt action, it has been kept under control so far in the extensive wetland areas of Kakadu National Park.

The Government is committed through the Bureau of Rural Resources, the Australian Quarantine and Inspection Service and the Australian National Parks and Wildlife Service to facilitating research on introduced weeds to provide increased ecological

understanding of the complex relationship that prevails when introduced organisms invade natural ecosystems. This knowledge is essential to the preservation of our natural heritage.

Stringent import controls are aimed at keeping exotic pests and diseases out of Australia. They also provide for the safe entry of certain species.

Ballast water discharge from shipping can lead to the introduction of unwanted and sometimes dangerous species of marine life. The presence in Tasmania of a toxic organism known to cause paralytic shellfish poisoning has led to the closure of shellfish farms in the Huon River on a number of occasions. **The Australian Quarantine and Inspection Service is currently investigating a range of control approaches.**

The Government has recently responded to a review of Australia's quarantine services. This is the first comprehensive review since Federation and will lead to a more efficient and effective quarantine service for Australia, and a more open and accountable method for making Australia's quarantine decisions.

International Co-Operation - Agreements

International co-operation is essential for the preservation of species and their habitats. In recognition of this, Australia has participated in the development of a number of international agreements designed to promote the conservation of identified species of flora and fauna and their habitats.

One of the first global nature conservation conventions signed by Australia was the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, known as the Ramsar Convention. Wetlands play a crucial part in the journeys of migratory birds and also contain complex ecosystems, the destruction or despoiling of which could have grave consequences for the Earth's biological resources. The Ramsar Convention, therefore, seeks to promote the conservation of wetland sites and waterfowl. Australia currently ranks second among the Parties to the Convention in the total area nominated.

Australia will shortly conclude two bilateral agreements on migratory animals, the Australia-Japan Migratory Birds Agreement and the Australia-China Migratory Birds Agreement. We are now considering accession to the Bonn Convention on the Conservation of Migratory Species of Wild Animals. The Bonn Convention will facilitate the protection of a range of identified migratory species and their habitats along their migratory path. The Government is actively working towards the establishment of agreements with the USSR and ASEAN for the protection of migratory birds.

Australia has now ratified the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region. This regional Convention will enable greater protection of the environment.

Australia is also a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which regulates the import and export of certain listed species.

Australia implements CITES through the Wildlife Protection (Regulation of Exports and Imports) Act 1982. It is a powerful Act and, in many respects, is more wide-reaching and more stringent than CITES. In addition to regulating those species covered by the Convention, the Act controls trade in all other Australian wildlife and wildlife products. Huge profits can be made on the blackmarket from the sale of some endangered species, particularly some Australian animals, and under the Act there are severe penalties for the illegal and cruel export of these species.

The Act is a vehicle for ensuring the long-term conservation of species whose product may be exported. In the case of kangaroos and wallabies, the Government acknowledges there is a need in the interests of agriculture to control the numbers of certain species. It is essential that these are subject to strict management programs.

Of major international concern at present is the survival of the African elephant. Without effective measures to prevent the illegal ivory trade this magnificent animal faces extinction. Australia will be actively seeking a prohibition of trade in ivory, except for antique ivory, at the next CITES meeting in October.

Australia is a signatory to the United Nations Convention on the Law of the Sea. We participate in the Preparatory Commission which is responsible for the development of draft rules to ensure effective protection of the marine environment from harmful effects which could arise from any eventual exploitation of the natural resources of the sea-bed beyond national jurisdiction. Australia will be concerned to see that the proposed rules conform to the highest standards of environmental protection.

World Heritage and National Parks

The key to survival of species is preservation of their habitats. Areas of outstanding natural and cultural importance are protected in different ways. Commonwealth legislation ensures appropriate management of areas included on the World Heritage List. Other areas are protected by inclusion on the Register of the National Estate and through the establishment of National Parks. National Parks and Reserves, reflecting the diverse character and function of particular areas, are largely under State and Territory control.

Through co-operation with the States, the Government will continue to work towards a national strategy to ensure all ecosystems are represented in a reserve network.

World Heritage

In recognition of the fact that there are areas of Australia which are seen to be of outstanding universal natural and cultural value by the international community, we now have eight sites inscribed on the World Heritage List.

These are:

- Uluru (Ayers Rock-Mount Olga) National Park
- The Great Barrier Reef
- Lord Howe Island Group
- Australian East Coast Temperate and Sub-tropical Rainforest Parks
- Wet Tropics of North East Queensland
- Willandra Lakes Region
- Kakadu National Park (Stages I and II)
- Western Tasmania Wilderness National Parks

The qualities of these areas match those of other World Heritage places, which include Mount Everest, the Grand Canyon, the Egyptian Pyramids and the Great Wall of China. Willandra Lakes, Kakadu, and the Western Tasmanian Wilderness have been nominated for both their natural and cultural values.

Australia's World Heritage record has been praised by the International Union for Conservation of Nature and Natural Resources (IUCN), which advises the World Heritage Committee on nominations. The IUCN has said that 'Australia has done more to implement the World Heritage Convention than any other single country'. The total area of Australia nominated for World Heritage listing is greater than the size of Switzerland or Denmark, and more than one and a half times the size of Belgium.

The IUCN has indicated its wish to hold a General Assembly in Australia. The Government welcomes this further recognition of Australia's standing in conservation matters and is issuing an invitation to the IUCN with a view to a future Assembly being held here.

With the honour of inscription on the World Heritage List comes the responsibility for preservation. The Government has decided to provide an additional \$1.3 million in 1989-90 and \$1.35 million for 1990-91 for the Western Tasmania Wilderness National Parks. These funds will be used to reduce the effects of increasing numbers of visitors to the area by upgrading tracks and constructing new tracks, and to provide visitor facilities and interpretative displays.

Because of the damage to the Great Barrier Reef, the Government has decided to allocate an additional \$750,000 to June 1991 to supplement the existing funding for research into the coral-eating Crown of Thorns Starfish.

Discussions are being held with the Western Australian Government on the possibility of nominating Shark Bay for World Heritage listing and with the Western Australian and South Australian Governments on the Nullarbor Plain for World Heritage listing.

The Victorian, ACT and NSW Governments are investigating the Australian Alps to see whether they meet the strict criteria for World Heritage listing. In 1986 the

three governments and the then ACT Administration signed a Memorandum of Understanding (MOU) on co-operative management of the area. The MOU is recognition of the national significance of the Alps and an example of the co-ordinated approach which should be taken on the protection of areas of national cultural or natural significance.

National Parks

National Parks have been established for a variety of reasons: for recreation, for preservation of areas of particular beauty, to preserve examples of plants and animals in their natural habitat. In recent years another important reason has been recognition of the need to preserve representative and sustainable examples of ecosystems.

Most National Parks are under State or Territory control. Currently there are over 500 National Parks in Australia which when combined with reserves, constitute 5.5 per cent of land in Australia. A small number of Parks are managed by the Commonwealth through the ANPWS. These include Kakadu National Park, Uluru (Ayers Rock-Mount Olga) National Park, Norfolk Island National Park and Christmas Island National Park. The Commonwealth also manages a small number of nature reserves and marine parks in offshore areas.

National Estate

The Register of the National Estate is an inventory of places of significance in the natural, historic and Aboriginal environment for the nation and is administered by the Australian Heritage Commission. As well as places of national significance, it includes places of both State and local significance. On 30 June 1989, there were 8825 places listed on the Register.

Places of natural significance include endangered species habitats, outstanding stretches of coastline and forest wilderness. When any significant activity is proposed for such places and Commonwealth decisions are involved, Commonwealth Ministers are required to inform the Heritage Commission, consider the Commission's advice on the National Estate values of the place, and seek to avoid or minimise damage to these values.

Wilderness

Wilderness is one of the many legitimate land use options. Sustainability has special relevance in this case as wilderness is essentially pristine and especially vulnerable to development pressures. The Government will prepare a discussion paper on options for wilderness management including development of criteria to evaluate wilderness values bearing in mind the irrevocable nature of decisions affecting wilderness values.

A National Wilderness Inventory, initiated in 1986, has been completed in Tasmania and Victoria and is currently underway in north Queensland and South Australia. Funding for the program will be increased to allow rapid completion of all areas of

Australia, as the National Wilderness Inventory is a necessary management tool for identifying and predicting the effect development proposals may have on wilderness qualities.

Oceans and Fisheries

Oceans are the great environmental unifiers of the planet. Oceans have a strong influence on global weather patterns. Marine algae contribute to oxygen exchange with the atmosphere. Oceans are major sources of protein which if managed on a sustainable basis can significantly add to global food supplies.

There is increasing evidence that human activity is degrading the oceans through exploitation of marine resources and pollution by organochlorines, heavy metals and plastics. The Government recognises that no country acting alone can protect or manage the oceans. The Government will therefore be using every opportunity available at international forums to pursue effective international measures aimed at the protection of our oceans.

The Importance of Fisheries Management

Australia faces a special challenge in maintaining its fishery resources. Although Australia has a large fishing zone by world standards, our fisheries are relatively limited. Some of our fisheries are seriously over-exploited and the Government is taking urgent action to provide for their recovery and return them to sustainable production levels.

The Commonwealth and State governments share the objective and the task of ensuring the conservation of our fisheries resources. Effective management of fisheries also requires a strong community commitment.

For all fisheries, sufficient parent stock must be conserved to maintain a resilient resource capable of self-replenishment. Effective management depends on a thorough understanding of the resource and its relationship with the marine environment.

This Government is the first to have introduced comprehensive management plans for our major fisheries, recognising that marine resources are a common property resource.

A major policy statement will be released in September which will examine the range of policies which can foster an efficient and dynamic Australian fishing industry operating within the sustainable limits of the resource. It will state the rationale and objectives of management of the Australian Fishing Zone.

Protection of Whales and Dolphins

The Government has actively pursued, through the International Whaling Commission and diplomatic channels, a policy of complete protection for all whales, dolphins and porpoises. Australia is now a world leader in cetacean rescue techniques with an excellent success rate in returning stranded cetaceans to the sea.

Australia has consistently questioned the basis of the Japanese scientific whaling program and has urged the Japanese Government to withhold permits for the annual slaughter of several hundred minke whales.

Southern Bluefin Tuna (SBT)

In response to severe depletion of stocks Australia was the first country to implement a management regime for the SBT fishery.

The stock situation for this species remains critical. Last year, scientists from the three main nations fishing for SBT (Australia, Japan and New Zealand) agreed that the only 'safe' level of catch they could recommend would be zero, but, if that were not feasible, catch levels should be reduced by at least half. In the subsequent negotiations on SBT management arrangements, the three countries involved agreed to drastic catch reductions. Australia's quota was reduced by 57 per cent.

Unfortunately, the emerging scientific picture for next year is very serious. Some of Australia's scientists are already arguing that we need to stop fishing for SBT altogether to avoid wiping out the species.

Australia will be using every opportunity open to it to convince all nations involved that the SBT stock remains under the gravest of threats and will press for a moratorium on the taking of SBT.

The Government has decided to allocate an additional \$1.45 million over the next two years to supplement the existing Southern Bluefin Tuna Program.

Driftnetting

An alarming expansion in driftnet activity by distant water fishing fleets is threatening the future of marine resources and the communities which depend on them. Driftnets fish indiscriminately and can cause rapid depletion of fish stocks. They can be up to 60km long and 15 metres deep.

As well as jeopardising commercial fish stocks, driftnetting is an indiscriminate killer of dolphins, seals, small whales, seabirds and turtles. Lost and abandoned nets continue to kill marine life and may 'ghost fish' for years.

Australian fisheries legislation has been effective in deterring driftnet operations in Australian waters and in denying support to high seas drift net vessels. In 1986 the Government introduced stringent controls on the length of driftnets in northern Australian waters. Since then no foreign driftnetters have operated in Australian waters.

We will extend the net length restriction to cover the whole of the Australian Fishing Zone, continue to deny access by driftnet vessels to Australian ports, except in cases of emergency, and prevent transshipment of fish caught by driftnets in the Zone.

Since driftnet fleets moved into the South Pacific, the future of major regional fisheries for albacore tuna and the island economies reliant on them has been placed

in jeopardy. The meeting of the South Pacific Forum in July 1989 endorsed an Australian initiative to establish a management regime for the southern albacore tuna resource which would ban driftnet fishing in the South Pacific region.

Australia is also concerned that increasing driftnet activity in the Tasman Sea and the Indian Ocean may seriously prejudice recovery of Southern Bluefin Tuna stocks.

Driftnetting is a global problem and there is an urgent need for international action to put an end to this barbarous form of fishing.

Accordingly, Australia will press for a global ban on driftnet fishing.

Protection of Antarctica

Antarctica is the world's last great wilderness. It provides a habitat for many living species. It also constitutes an extremely valuable scientific laboratory for measuring the extent and effects of global climate change. This research capability is indispensable to efforts to assess the greenhouse effect and changes in the thickness of the ozone layer.

The Antarctic environment is not only unique, it is especially fragile. A breakdown in some parts of the land, water or air that make up this frozen continent could damage or destroy entire ecosystems.

The grounding of the Exxon Valdez in Alaska is testimony to the damage that an oil spill can do to such an environment. In Australia's view, mineral exploitation in Antarctica poses unacceptable risks to the Antarctic environment.

Australia is opposed to mining and oil drilling in Antarctica.

The Government has decided not to sign the Antarctic Minerals Convention. The Minerals Convention accepts the principle of mining in Antarctica, albeit under some safeguards. The Government does not accept the principle of mining in Antarctica and will not sign the Convention.

Instead, Australia is urging the negotiation of a comprehensive environmental convention for Antarctica. Within that convention, and within the framework of the Antarctic Treaty System, Australia is seeking the establishment of an Antarctic Wilderness Reserve. Meanwhile, Australia will be seeking to prolong and strengthen the present moratorium on mining in Antarctica.

Since making these decisions in May 1989, the Government has made considerable progress in gathering international support for Australia's goal of an Antarctic Wilderness Reserve. France has indicated its support for Australia's initiative. So too have India and Belgium. Various European countries are considering Australia's proposal carefully and support its objectives. Australia will pursue its proposals in detail at the next Antarctic Treaty Consultative Meeting in Paris in October in 1989.

But ultimately it is the sheer weight of international public opinion that will determine the future of Antarctica. Australia does not expect to meet with unqualified success overnight, but as international awareness of the hazards of

mining in Antarctica continues to spread, more and more governments will be persuaded that mining in Antarctica is a risk that should not be countenanced.

The Australian Government will continue to push its proposals vigorously: it will not relent in its efforts to prevent mining in Antarctica, to promote a comprehensive environment protection convention and to establish an Antarctic Wilderness Reserve.

Australia's policy interests in Antarctica as agreed by successive governments since the 1960s have included the objective 'to derive any reasonable economic benefits from the living and non-living resources of the Antarctic'. Consistent with its decision not to allow mining in Antarctica, the Government has amended that policy objective to make it clear that it excludes deriving benefits from mining or oil-drilling.

4.2 ATMOSPHERE

The Greenhouse Effect

Developing strategies to deal with the possibility of climate change is one of the most complex and difficult tasks faced by the world.

Much has yet to be learned about the processes and consequences of changes in the composition of the atmosphere. But the growing consensus amongst scientists is that there is a strong possibility of global warming with major climate change, and that this is linked with the levels and nature of industrial and agricultural activity.

Significant climate change could, within the lifespan of today's children, raise sea levels, leading to flooding of coastal cities and plains and make low lying islands uninhabitable. It could change the distribution and availability of fresh water resources, alter natural ecosystems and accelerate the extinction of plant and animal species, change energy usage patterns, and it could change the productivity and distribution of agricultural lands.

Clearly such an outcome, even if it occurred gradually, would have major ramifications for human survival and settlement patterns as well as for our environment more generally. And it would almost certainly be accompanied by social and economic dislocation.

WHAT IS THE GREENHOUSE EFFECT?

There is a natural greenhouse effect.

Sunlight travels to the Earth's surface, heating it.

Heat from the Earth's surface is partially absorbed by the greenhouse gases. These gases in turn radiate heat back to the Earth, causing the Earth's surface to be approximately 30 degrees Celsius warmer than it would otherwise be.

Life on Earth as we know it today would not be possible if the natural greenhouse effect did not occur, because the Earth's average surface temperature would be below freezing point.

There have been earlier periods when the Earth's climate has been warmer or colder.

Scientists can now demonstrate that greenhouse gas concentrations in the atmosphere are rising at an increasing rate, probably as a result of industrial and agricultural activities.

Many scientists consider that as a consequence global warming with major climate change is a strong possibility.

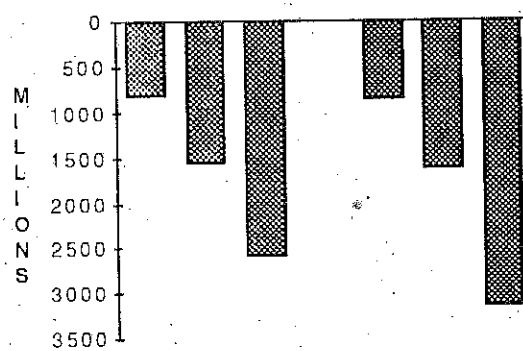
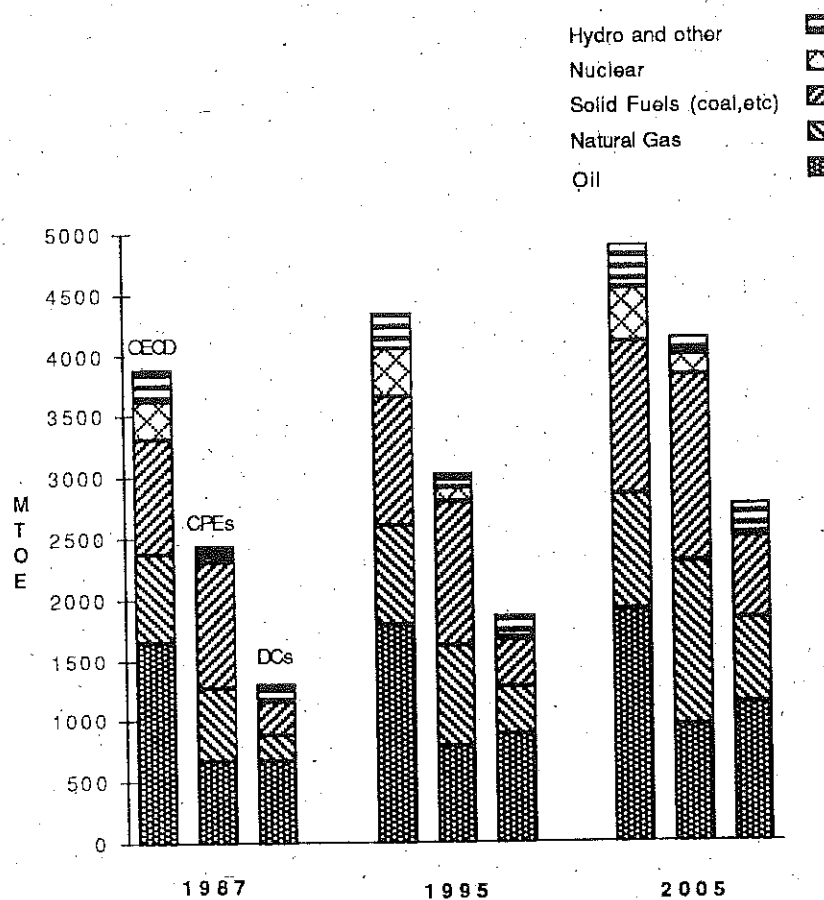
With this prospect in mind the task for governments is to decide when and how to act to limit the causes and to implement adjustment strategies to mitigate the impacts.

ESTIMATE OF GLOBAL SOURCES OF GREENHOUSE GASES

<i>Gas</i>	<i>Contribution to Greenhouse Effect</i>	<i>Component by Source</i>	
Carbon dioxide	45-55%	Fossil fuel combustion -	total 70%
			coal 29%
			oil 29%
			gas 11%
		Deforestation	20%
		Other	10%
Methane	10-20%	Rice paddies/natural wetlands	16-44%
		Enteric fermentation	16-26%
		Tundra	15-20%
		Biomass burning	11-15%
		Gas and coal fields	14-25%
		Other	5-10%
Nitrous oxide	7-11%	Fossil fuels	12-34%
		Biomass burning	8-20%
		Fertilisers	5-15%
		Other	30-75%
Chlorofluoro- carbons (CFCs)	10-16%	(includes Refrigerants, Air Conditioning, Plastic Foams, and Aerosols)	
Stratospheric	5-15%		
Other	1-4%		

*Sources : World Resources Institute; CSIRO; Australian Association of Fluorocarbon
Consumers and Manufacturers*

ESTIMATE OF WORLD PRIMARY ENERGY REQUIREMENTS



ESTIMATE OF WORLD POPULATION

MTOE Million tonnes of oil equivalent.
 OECD Organisation for Economic Cooperation and Development.
 CPEs Centrally Planned Economies (USSR, Eastern Europe, China, etc).
 DCs Developing Countries.

Source OECD
 Food and Agriculture Organisation.

We cannot afford to wait for conclusive scientific evidence of climate warming because, if the predictions prove correct, the longer we have delayed the more difficult and costly will be any solution. Equally, ill-considered action may be both costly and ineffective. We need therefore a phased response. Our short term responses need to be cost effective, and our longer term responses based on the outcome of research now being set in train.

This is a global problem and requires a global response. No country by itself can forestall the likely changes.

Equally, global solutions must take account of regional and national impacts and concerns. Australia must act both globally and nationally.

The Commonwealth's Approach

Australia is recognised worldwide as being at the forefront of progressive work on climate change. It intends to maintain that position.

The Government's approach combines international activity; a research program into causes, impacts and limitation and adaptation responses; public education; and a national strategy that will involve the Commonwealth, State, Territory, and local governments, industry and community groups.

International Efforts

There has already been widespread national and international action to phase out use of ozone depleting substances (see section on Ozone). Nations are now planning to deal with the broader greenhouse issues.

This is a task that will require ingenuity. There are no simple solutions. It will require study and action on many fronts. Because of the different climatic, economic and social circumstances of different countries there will need to be flexibility in international agreements that allows each nation to develop strategies appropriate to its circumstances. Some, for instance, may need to put most emphasis on emission reductions; others may seek to reduce net carbon dioxide additions to the atmosphere by reafforestation.

Some countries can adapt more readily in one field than another. Countries like Japan, for instance, that are relocating offshore their energy intensive industries (steel and aluminium in particular), could reduce their energy demand and fossil fuel emissions far more readily than Australia, which is seeking to increase its capacity for secondary processing. If they are unable to increase their energy usage, developing countries will be severely disadvantaged compared with developed countries.

For this reason both globally and nationally we need to look at all the sources of greenhouse gases and all the emissions from particular processes, and the activity of the gases themselves. We need to develop a better understanding of the absorption of greenhouse gases in the natural 'sinks' - the oceans and the Earth's vegetation. We need to identify all the possible impacts. And we need to study all possible policy

responses, both nationally and internationally, including legal and economic measures, technology development and transfer, public education and involvement. We need to assess whether the international institutions and financial agencies are adequate to the task. If they are not, Australia will work with other countries to develop better institutional arrangements.

Australia has taken a prominent role in the early stages of this process. In March this year, along with 23 other countries, Australia signed the Declaration of The Hague on Protection of the Atmosphere. Amongst other matters, this Declaration identifies the need to address the development of new institutional authority in the United Nations framework - by strengthening an existing institution or creating a new one - that will be responsible for combating global warming. It also highlights the problems of compliance with decisions the new authority might take, and of compensation for countries that suffer an abnormal or special burden as a result of decisions taken.

GREENHOUSE EFFECT AND ISLAND COUNTRIES

The Pacific and Indian oceans contain a large number of low-lying countries which are particularly vulnerable to sea-level rise. If as some scientists suggest, climate change includes more frequent and more intense tropical storm activity, countries with large proportions of their land and population situated in low-lying coastal areas will face increased hazards from typhoons and storm surges.

Australia will host an international workshop on coastal zone management in February 1990, which will be particularly relevant to Pacific Islanders.

Under its aid program Australia has undertaken a preliminary study on climate monitoring in the Pacific.

Australia will now establish a network of climate monitoring stations through the South Pacific region, at a cost of \$6.25 million.

The Intergovernmental Panel on Climate Change

The main global avenue for considering greenhouse matters is the Intergovernmental Panel on Climate Change (IPCC), established in late 1988 under the auspices of the World Meteorological Organisation and the United Nations Environment Program. Its specialist groups are examining the scientific evidence available and the expected impacts of climate change, and evaluating what can be done globally to address the problem. International organisations like the International Energy Agency and the OECD are providing specialist information and analysis. Countries, including Australia, are providing much of the regional detail and position papers on major issues.

Australia will continue to give the IPCC strong diplomatic support. We believe the IPCC process can be successful only if more developing countries can be involved, and that ways must be found of drawing them into the work currently being undertaken.

The IPCC will present recommendations to the Second World Climate Conference in 1990. Governments will then be in a stronger position to develop agreed policies, including on institutional arrangements and funding, and negotiate their implementation.

A Framework Convention on Climate Change

The Government will take an active role in strengthening existing international legal instruments, notably the Montreal Protocol on Substances that Deplete the Ozone Layer, and in developing a new framework convention to facilitate the adoption of international and regional measures connected with climate change. The Government will offer to host a negotiating session in Australia.

A framework convention on climate change would provide an umbrella for protocols on specific elements. Australia considers preliminary negotiations on such a convention should begin at an early date. Once the report of the IPCC is completed next year, substantive negotiations on the convention should begin, so that it can be available for consideration at a United Nations Conference on Environment and Development planned for 1992.

Research

Australia is giving a high priority to ensuring that national, southern hemisphere and regional concerns are taken into account internationally. Australia's participation is critical as one of only a few countries in the Southern Hemisphere with well developed meteorological monitoring systems, and valuable experience in dealing with widely varying climatic conditions. Its own mix of greenhouse gas emissions is quite different from those of most other developed countries in the northern hemisphere because it is a large primary producer with a comparatively small industrial base.

To ensure continued Australian capacity in greenhouse matters, the Government has allocated \$7.8 million for a two year program of high priority initiatives, to complement existing work and to enable the development of a multi-faceted national strategy in consultation with State, Territory and local governments, industry and the corporate sector, community and conservation groups.

Research is urgently needed to provide the basis for sound government decisions. Of the \$7.8 million provided for additional efforts, \$5.54 million is for research, most of it for CSIRO and the Bureau of Meteorology. They are using these resources for southern hemisphere climate research and modelling, without which the global models now being developed would be incomplete and an inaccurate basis for predicting impacts in Australia.

To ensure that the Government's greenhouse research programs are well directed, the Government has appointed a National Greenhouse Advisory Committee of eminent scientists under the chairmanship of Professor Henry Nix from the Australian National University to advise on priority areas of research and set objectives for a dedicated research grants scheme to commence in 1990-91.

Limiting Emissions

Australia needs to do further research on all the sources of greenhouse emissions in Australia, and particularly on methane, which CSIRO research indicates may pose a greater greenhouse gas problem for Australia than carbon dioxide does. Methane comprises a greater proportion of Australia's greenhouse emissions than it does of global emissions.

In setting its directions for the future the Government will take account of Australia's particular mix of greenhouse gases and its capacity for increasing its carbon sinks, for example, through tree planting and afforestation. Its strategies for reducing emissions will need to be different from the strategies of countries with different climates, environments, and economic and social structures.

We are likely to find it much more difficult to reduce carbon dioxide levels than some other countries. We may even need to increase the levels to accommodate growth of internationally competitive export industries.

In this event we would need to compensate by greater efforts to reduce other greenhouse emissions and to increase our carbon sinks. Our solutions must enhance both our environmental and our economic interests, and those of the rest of the world. This approach is also completely consistent with that of the Intergovernmental Panel on Climate Change.

There is much that can be done immediately to reduce carbon dioxide emissions from fossil fuels. There is considerable scope for immediate action to enhance energy efficiency and energy conservation. This is particularly true for transport and the residential sector, where existing energy saving technology is cost competitive.

Because a significant proportion of all carbon dioxide emissions in Australia comes from motor vehicles, the transport sector must be a major area for research into transport systems design, alternative energy sources and technology for enhancing transport fuel efficiency. The Government's further objective is to seek the co-operation of State governments to reduce transport energy consumption per capita by encouraging an integrated approach to public transport and land use planning.

The Commonwealth will undertake a detailed evaluation of the options for reducing greenhouse gas emissions from activities within Australia. Relevant work involving the States and Territories is already underway. For example, the Australian and New Zealand Environment Council and the Australian Minerals and Energy Council have already begun consideration of the issue.

Australia will play its part in reducing global greenhouse gas emissions, both domestically and internationally. It may be that the sensible global strategy is for some energy-intensive activities to be relocated to efficient energy-producing countries such as Australia. Bearing these considerations in mind, and within the context of international action, Australia will actively work towards the domestic reduction of major greenhouse gases and, for those which are energy related, will

work towards increased energy efficiency to yield a lower level of gas emissions for a given level of production.

Following the call by the Toronto Conference in 1988 for a reduction in carbon dioxide emissions, the Government will carry out investigations and consult with relevant conservation and industry groups with the objective of achieving a global reduction in total greenhouse gas emissions. This will involve processes such as energy efficient manufacturing and vigorous moves to energy conservation in Australia and abroad.

These investigations and consultations will determine the extent of reductions on greenhouse gas emissions that can be achieved. The Government will convene a meeting of relevant interests in the near future to take these processes forward.

A National Approach

The Government is committed to developing a national approach to climate change issues.

Arrangements are already in place for coordinating the Commonwealth's own efforts.

Specific issues will be taken up with State and Territory governments through ministerial councils like the Australian and New Zealand Environment Council, the Australian Minerals and Energy Council, the Australian Agricultural Council and the Australian Health Ministers' Conference.

The Government recognises the need for public awareness and education. It is providing initial funding of \$350,000 over two years for a long term education campaign to raise community awareness of the implications of greenhouse issues, and the considerable scope for community actions to address them. The Commission for the Future (CFF) has already published a booklet called Personal Action Guide for the Earth to provide advice on a large range of practical actions individuals can take to protect and enhance our environment.

The Government will continue to support bodies such as the CFF, the Australian Conservation Foundation and CSIRO to build on the work so far. The Government is pleased that Australian efforts have been recognised internationally through the admission of CSIRO and the CFF to the Global 500 roll of honour of the United Nations Environment Program.

The prospect of global warming has major implications for all aspects of the natural and the social and cultural environments. The possibility of extinction of plant and animal species and fundamental changes in ecosystems raise significant questions about the appropriate policies for national parks and wilderness areas. These make development of a national approach in consultation with the States an urgent task.

We also need to begin to assess the implications for agricultural production and the future of our resource based export trade.

The effects of climate change on physical infrastructures and systems would be of critical importance to urban settlements in the coastal zone already subject to coastal erosion and periodic flooding. Bridges, urban drainage and sewerage systems would

need to be assessed by State and local authorities against the possibility of significant changes in rainfall frequency, intensity and duration. Some adjustment might be accommodated in the course of replacing and upgrading old infrastructures. However it is possible that significant additional costs would be incurred by both the property owners concerned and society generally. Changes might be necessary in water management systems and planning procedures.

Recognising that we must plan now for future change, the National Health and Medical Research Council has started to identify the adverse health consequences that might be expected, and to advise governments on effective national strategies to protect the health of all Australians. Australia has considerable expertise in tropical medicine that will also be of value to other countries that today are little affected by such problems. The development of health strategies will be coordinated with related activities in the environment portfolio through a group established by the two Ministers.

The Australian Minerals and Energy Council has commissioned work on energy policy changes that can be made to reduce greenhouse gas emissions, and the National Energy Consultative Council is also addressing this issue. CSIRO will hold a Conference on Greenhouse and Energy in December this year.

Ozone

A large body of scientific evidence indicates that the ozone layer has been seriously damaged by chlorofluorocarbons (CFCs) and halons (specialised fire fighting chemicals). CFCs are used in refrigerators and air conditioning systems, as aerosol propellants and in the manufacture of plastic foam products.

CFCs and halons also contribute to the greenhouse effect. Action taken to protect the ozone layer could also reduce the prospect of global warming.

The ozone layer in the upper atmosphere plays a vital role in screening out harmful ultraviolet radiation from the sun. Depletion of the ozone layer will affect human health, animals, crops and ecosystems. Because CFCs are slow to break down, even if action is taken now to reduce them, the problem of ozone depletion will persist for decades.

Until now CFCs have been primarily used in developed countries. However, as per capita incomes in developing countries increase, demand for CFC-using technologies such as refrigerants will also increase. Already there is evidence of developed countries, aware of the problems of CFCs, dumping old CFC-using equipment in developing countries. New generation technologies using CFC replacement technologies may be more expensive. But unless all countries, including developing countries, can be persuaded to phase out CFC-using technologies the problem of ozone depletion will continue.

Australia has offered several countries help with alternative technologies. Australian industry is already able to transfer appropriate alternative technologies to a number of developing countries.

Australia has ratified the Vienna Convention on Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer. Under the Protocol, countries are required to reduce CFC use by 20 per cent on 1986 levels by 1993 and a further 30 per cent by 1998.

Since finalisation of the Protocol in 1987, scientific evidence has suggested that threats to the ozone layer are greater than previously envisaged. The parties to the Protocol, meeting in Helsinki in May, declared that all ozone depleting substances should be phased out by the turn of the century, and it is now widely expected that this goal will be adopted by the Parties when they meet in 1990. Australia will continue to play a leading role in this process and will continue to encourage all nations of the world to join the Protocol.

The Ozone Protection Act, passed in March this year, enabled Australia to meet its obligations upon ratification of the Montreal Protocol on Ozone Depleting substances and to introduce bans on selected uses of CFCs. By the end of 1989 the import or production of polystyrene packaging and insulation material containing CFCs will be banned as will the production or import of aerosol sprays which use CFC propellants (except in the case of essential uses). A ban is already in place on the import and manufacture of drycleaning machinery capable of using CFCs.

These bans have already given Australia a reduction in CFC use at twice the rate required by the Protocol. Australia is also the only country to limit the export of CFCs.

The Australian and New Zealand Environment Council is publishing a national strategy to speed up the phase out of these chemicals in Australia. The strategy was developed after extensive consultation with industry, trade unions and public interest groups. New Government regulations, to be introduced this year and based to a large extent on the strategy, will require the phasing out of nearly all CFC and halon use by the end of 1994, and it is likely that a total phase out of CFCs and halons will be possible by the year 2000. Again this phase out is more than twice as fast as that foreshadowed in the soon-to-be strengthened Protocol.

OUR CLIMATE

Everyone knows that we have had a wet year and that some of the hottest years on record have occurred this decade. Some of us have been tempted to see it as part of the changes that will inevitably occur with the greenhouse effect.

The Bureau of Meteorology reports that our present weather pattern, although extreme, is consistent with the pattern of expected natural variability. At present Australia is being influenced by an extreme associated with the Southern Oscillation and El Nino phenomena. The present phase of above average rainfall over eastern Australia is likely to continue until at least spring before there is a return to more normal rainfall patterns.

The Bureau and its predecessor has records on Australia's weather dating back to the 1850s. According to the Bureau, high temperatures experienced in the 1980s are generally only slightly above those experienced in the 1930s. However there does appear to be a rise of about 1 degree Celsius over southern Australia since the early 1940s. Whether these increases are due to the greenhouse effect or some other natural influence such as longer period ocean temperature variability has yet to be established.

The Bureau currently monitors Australia's weather from a total of 620 stations around Australia and in the Antarctic Territory.

4.3 LAND

We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.

Aldo Leopold, ecologist.

For some city-dwellers, the dust storms which billowed over Melbourne in 1983 may have been the first indication that the Australian landscape was in trouble. But those with longer memories would have recalled similar storms in Melbourne and Sydney as early as the 1930s.

These storms, and problems such as Adelaide's salty and turbid drinking water, are among the more obvious results of the disturbance which has been caused since European settlement to three of the land's most important components - soil, water and vegetation. We have modified the land's ecosystem to the point where its value for both ecological and human sustenance is threatened.

The Dimensions of Land Degradation in Australia

- In Western Australia, 250 square kilometres of agricultural land is lost each year because of soil salinisation caused by the over-clearing of native vegetation. Over large areas of the West Australian wheat belt, less than 10 per cent of the native vegetation remains, scattered in small patches, most of which are degraded by grazing, invasion of weed and rabbits and lack of regeneration.
- In some irrigation areas of the Murray-Darling Basin, groundwater levels are rising by more than 20cm a year, bringing with it dissolved salts that are present in amounts of 3000 tonnes per hectare, or more. Every minute, 2.5 tonnes of salt flows over the South Australian border in the waters of the Murray.
- In western NSW and south-western Queensland, the semi-arid woodlands that stretch in a belt covering 500,000 square kilometres are severely degraded. Already, some land can no longer sustain grazing. At a rough estimate, one half of the entire area could become unproductive within 30 years if the problem is not corrected.
- Wheat yield per hectare in the Darling Downs in southern Queensland is almost five times the national average. At the current rate of soil erosion, the rich topsoil of the upper slopes will be gone in 30 to 50 years.
- The Burdekin catchment covers 15 million hectares, an area twice the size of Tasmania, and supports a quarter of Queensland's export beef cattle industry. Soil erosion caused by grazing has risen to between five and fifty times the geological rate.

Source: Based on data in Regreening Australia, CSIRO Occasional Paper 3, Richard Eckersley, June 1989, page 2.

Past Mistakes

Many of the problems began shortly after European settlement. As early as 1803, the explorer George Caley wrote that 'there has been a great deal of bad land cleared which now lies waste and most of that which yielded favourable crops at first is now barren and worn out.' In the same year Governor King forbade the felling of trees along water courses as contributing to flood damage.

Yet huge areas of land were cleared in the latter part of that century, mainly for agriculture. While in more recent years the rate of tree decline has slowed considerably, environmental disturbance has continued as some farmers have moved on to increasingly unsuitable and fragile marginal lands, or have continued using unsustainable land management practices.

Some government policies have also had unintended and adverse effects. It was not until 1983 that tax incentives for land clearing were abolished, and 1988 before subsidies were removed on fertilisers, the use of which disguises the loss of soil nutrients and, in some cases, contributes to soil acidity. Subsidies for irrigation works and the underpricing of water have encouraged its excessive use and contributed to salinity and waterlogging. And generous drought relief programs may have encouraged overstocking of drought-prone country.

Soils

Australia is a huge land mass, but the area of agriculturally productive land is limited. While some two-thirds of the continent is used for grazing, no more than 10 per cent is arable, of which 60 per cent is already under extensive cropping. Nearly \$20 billion, or 40 per cent of gross export earnings, comes from activities based on the soil.

Unfortunately, the soil has been used beyond its sustainable capacity. A national study in the mid-1970s revealed that about 45 per cent of non-arid lands and some 55 per cent of arid lands in use required treatment for land degradation. Today, the estimate is higher.

What is Soil Degradation?

Soil degradation takes many forms - soil erosion, waterlogging, salting in dryland and irrigated lands, reduced soil fertility, soil acidity, declining soil structure and the degrading of vegetation. It results in a reduction in the productive potential of the soil and disrupts the ecosystems of which the soil is part.

Australia is particularly susceptible to soil degradation. Our soils are probably a hundred times older, and much less fertile, than the soils of Northern Europe. They are virtually non-renewable because of the very low rate of formation and the very old landscapes on which they occur.

Land Degradation

Degraded land is land which has lost part of its value for one or several purposes, including its usefulness to people, through changes to its bio-physical character. The processes which degrade land often occur naturally, but are hastened by human activity.

Soil Acidification

Soil acidity increases with the excessive use of nitrogen fertilisers and nitrogen fixing legumes, such as subterranean clover. It causes poor plant growth and an increase in plant disease.

Soil Erosion

The removal of soil by wind and water. Soil erosion is hastened by the loss of protective vegetation and repeated disturbance of the soil surface by cultivation or overgrazing. It removes the uppermost layers of the soil, where nutrients are concentrated.

Soil Salinisation

Dryland salinity occurs when saline ground waters rise to the surface and the salt remains after the water evaporates. Loss of tree cover is the major cause. Salinisation caused by excessive water use also affects irrigation areas. Salinity and waterlogging in the Murray-Darling Basin cost about \$100 million a year.

Loss of Soil Structure

Overcultivation, compaction by animals and agricultural equipment, and loss of organic matter leads to hard compacted soils, either on the surface or at depths. This reduces productivity and increases runoff and soil erodability.

Vegetation Degradation

Caused primarily by overclearing and overgrazing, but also by feral animals, the spread of woody shrubs and noxious weeds (native or exotic), pests, diseases, and soil degradation.

Sustainable Landuse

The use of land resource components - soil, water and vegetation - within their capability, in order to maintain their value for human and ecological purposes.

The National Soil Conservation Strategy

In 1986, co-operation between governments in tackling soil degradation was strengthened with the formation of the Australian Soil Conservation Council, comprising Ministers from each State and chaired by the Commonwealth.

One of the first initiatives of the Council was the preparation of a National Soil Conservation Strategy, released in 1989. This Strategy, aimed at achieving sustainable, integrated land use, will guide all Council members in soil conservation policy. Another document will soon be released setting targets and performance criteria.

A move towards a partnership extending beyond governments was made in 1988 with the formation of a Ministerial Task Force on Soil Conservation, consisting of the Commonwealth Minister for Resources, the National Farmers Federation and the Australian Conservation Foundation.

Landcare

The Commonwealth's contribution to the National Soil Conservation Strategy is Landcare.

Landcare consists of three elements:

- the Year and Decade of Landcare
- a review of policies
- an expansion of the National Soil Conservation Program (NSCP).

A Year (1990) and Decade of Landcare (to the year 2000), suggested initially by the National Farmers Federation and the Australian Conservation Foundation, will entail awareness, participation and education programs among rural and urban communities.

During this Decade of Landcare, the Government expects to provide over \$320 million for land care and related tree planting and remnant vegetation conservation programs.

Rural policies will be reviewed to ensure that they are consistent with Landcare objectives. Drought relief assistance is already under review by a Commonwealth Government Task Force.

The Government will review the taxation arrangements relating to the prevention and treatment of soil degradation, with a view to determining whether the effectiveness of those arrangements can be improved. Any changed arrangements will be no less generous than those already in place. There will be a capacity for groups such as the National Farmers Federation and the Australian Conservation Foundation to provide input into the review.

A Landcare Liaison Group will be established composed of representatives of the CSIRO and the Departments of Primary Industries and Energy and the Arts, Sport, the Environment, Tourism and Territories, to ensure co-ordinated policies and programs.

The NSCP, which began in 1983, has been restructured into four sub-programs - Community Landcare Support, Research, Major Program Support and Public Awareness, Education and Training. Over the next two years, \$49 million will be provided to the NSCP.

In 1989-90, \$23.4 million will be provided to the NSCP. Some \$10 million will be used to overcome current constraints, including insufficient data on land capability and the location and extent of degradation, and too few skilled advisers. A national assessment of land degradation will be undertaken to allow priorities to be objectively developed and specific targets set. About \$6 million will be used to fund projects of Landcare Groups, co-ordinators, and the preparation of farm and regional plans. About \$5 million has been allocated to research and development projects, including research into economic issues. The remaining funds will be directed at

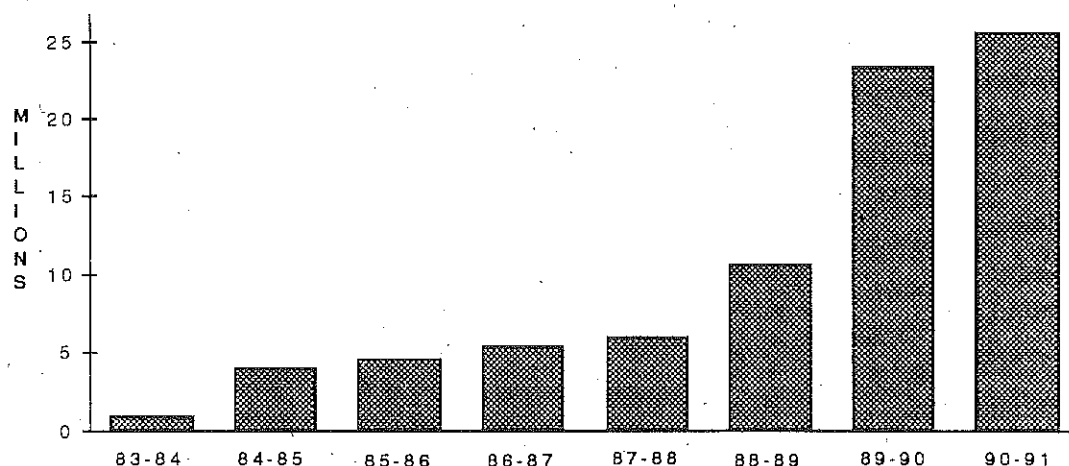
information and technology transfer projects, such as school curriculum material, ecological advice for landholders, technical bulletins and training programs.

Effective legislation is the foundation of a comprehensive soil conservation program. The Commonwealth will support Tasmania, currently the only State without specific soil conservation legislation, to develop an Act that will be the most modern in Australia. The Commonwealth will offer expert advice to the Tasmanian Government or any other government wishing to review or upgrade their existing soil conservation legislation.

THE NATIONAL SOIL CONSERVATION PROGRAM

The National Soil Conservation Program was established in 1983 to provide national leadership and funds to tackle soil degradation.

Over the next two years \$49 million will be provided to the NSCP. The Government expects to provide in excess of \$260 million to the NSCP over the Decade of Landcare.



Over the past five years, the program has contributed to over 400 projects, raising awareness of the need for soil conservation and helping groups of landholders (Landcare groups) to put conservation plans into action.

Already there are about 200 Landcare groups and a further 1,000 groups are intended by the year 2000.

The Murray-Darling Basin

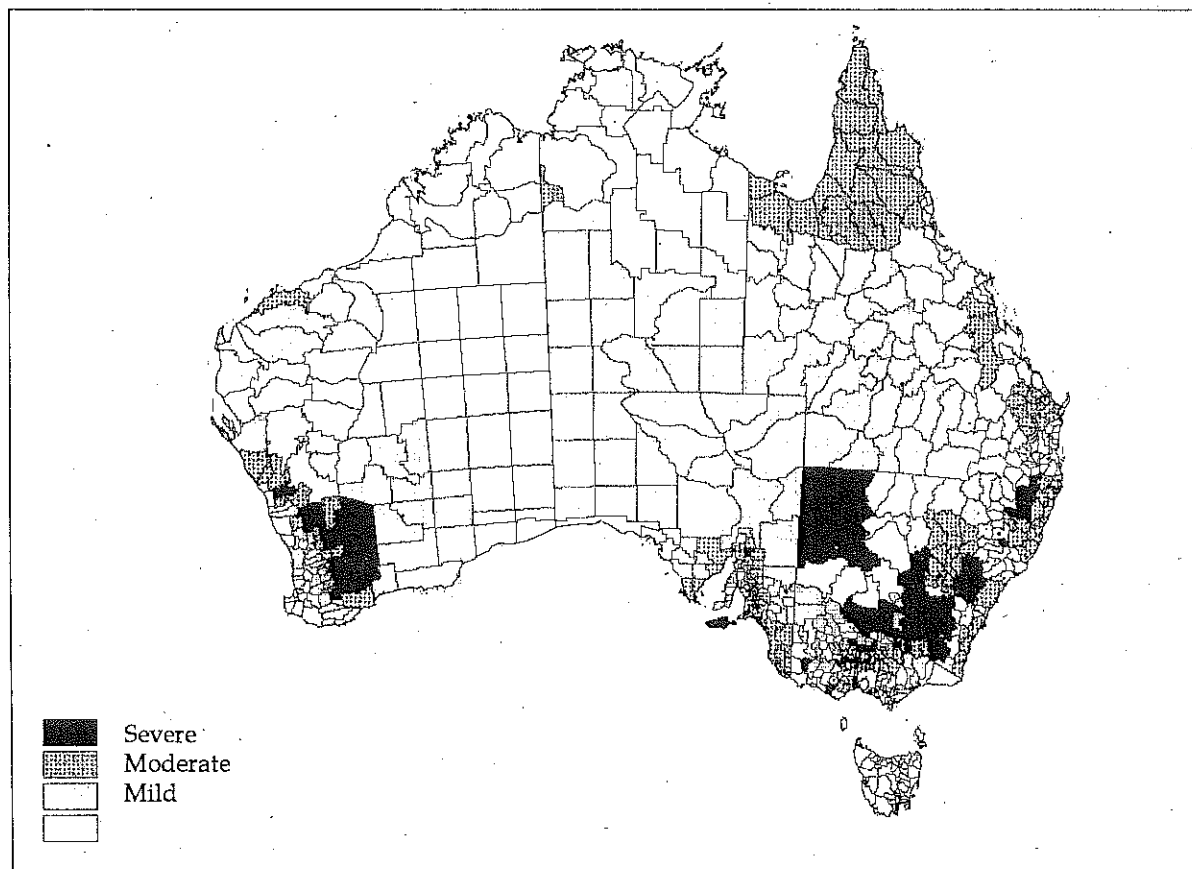
The Murray-Darling Basin covers 15 per cent of the Australian continent and spans four States and the Australian Capital Territory. It generates some \$10 billion or one third of the nation's rural production each year, supports 50 per cent of Australia's sheep, lambs and croplands, 25 per cent of our beef and dairy herds, and 75 per cent of our irrigated lands. It supplies half of South Australia's water.

Some of the developments and economic activity in the Basin are not sustainable. Production worth more than \$220 million is lost each year because of land degradation in cropping and irrigation areas alone. The total cost to the community from degraded lands, deteriorating water quality, rising groundwater and loss of native habitat throughout the Basin is likely to be many times greater.

The solution lies in a change of attitudes and better resource management practices in the community. A Natural Resources Management Strategy for the Basin has been developed to support community efforts and has the support of the Commonwealth and the NSW, Victorian and South Australian Governments.

The Commonwealth will provide an additional \$3 million in 1989-90 and \$5 million in 1990-91 to the Murray-Darling Basin Commission to begin implementing the Strategy. This will take total Commonwealth funding for the Commission to \$7.8 million in 1989-90 and up to \$10 million in 1990-91.

Land Degradation Severity Index



Source: Ive & Cocks, 'Rural Land Degradation In Australia', *The Australian Conservation Farmer*, (1989), Vol 1 (3), page 19.

Water

Most Australians have ready access to water, achieved through governments constructing huge water storage and irrigation works. The cost of these works has not always been reflected in water prices.

Water in fact is not abundant in this dry continent. Average annual rainfall is 420mm, of which only 10 per cent reaches the ocean via rivers and streams. By

comparison, North America's average rainfall is 660mm, of which about 40 per cent reaches the ocean.

Furthermore, rising salinity levels and an increasing incidence of bacterial and chemical contamination are posing challenges that will have to be met if serious health and environmental consequences are to be avoided.

Water Resource Management

The Australian Water Resources Council allows Commonwealth, State and Territory Water Ministers to consult on water resource development. The Commonwealth funds a number of important programs:

- Over the last 10 years, the Commonwealth has provided \$20 million to the Murray-Darling Basin Commission (MDBC) and its predecessor, the River Murray Commission.
- Since 1984-85 approximately \$310 million has been provided for a wide range of water related projects through the Federal Water Resources Assistance Program.
- Since 1985 over \$20 million has been provided to the Australian Water Research Advisory Council (AWRAC) for water research.

The Government will establish a new body, the National Resources Research and Development Corporation. This new Corporation, which will replace the AWRAC, will examine soil, water and forestry issues, and will promote an integrated approach to land and water research.

Commonwealth Government Objectives

In 1984 the Commonwealth announced three major water policy objectives:

- the availability of water, adequate in quantity and quality, for all beneficial uses
- the adoption of measures which improve the efficiency and effectiveness of water supply and use
- the development of a comprehensive approach to interrelated water and land management issues.

In achieving these objectives, the Government will:

- support and encourage State initiatives through the Australian Water Resources Council and the Murray-Darling Basin Ministerial Council
- pursue the development of pricing policies which will encourage efficient water use and help prevent environmental degradation
- take greater account of the inter-relationship between land use management - whether it be for agricultural, domestic or industrial purposes - and its effect on our water resources.

Trees

Thus we have ruined our country by denuding hills and plains of all trees and shrubs under the idea of improving pastures and fields, and have destroyed their fertility by overlooking the fact that trees and shrubs are not only in the world for firewood and timber, for shade, or ornament, at our convenience, but to create and maintain conditions permitting man to exist ...

J G O Tepper, an Australian environmentalist, 1896.

When Europeans first came to Australia, forests covered about 10 per cent of the continent. Woodlands, where trees are often smaller or more widely spaced, covered 23 per cent. Since then, some 50 per cent of the original tall and medium forest and 35 per cent of the woodlands have been cleared or severely modified, mainly for agricultural purposes. Three-quarters of Australia's rainforests have been destroyed.

The loss of trees is continuing. The main causes are clearing for agricultural and urban development and loss of trees through old age, salinity, insect attack, waterlogged soils, compaction of soils by livestock, grazing of seedlings by livestock and rabbits, and the use of fertilisers, herbicides and pesticides.

Why Trees Are Important

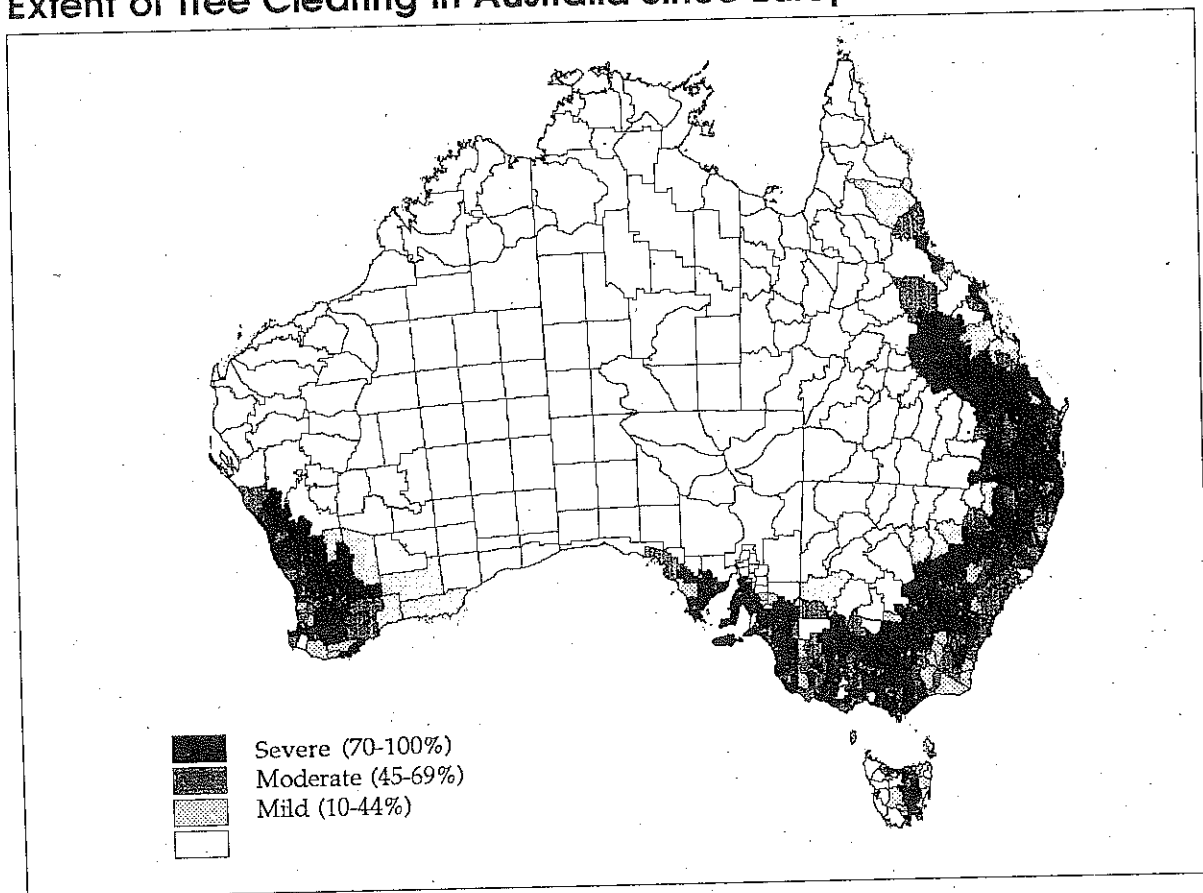
From whatever point of view - ecological, aesthetic or practical - there are too few trees in Australia.

Tree and vegetation conservation, regeneration, planting and maintenance are needed in many areas of rural and urban Australia to:

- sustain and improve the productivity of soils by reducing wind erosion, water erosion and salinity and by increasing biological activity
- provide protection and shelter for stock and people
- provide diverse ecosystems to sustain wildlife, including natural pest control agents
- provide wood and other tree products
- enhance the quality of surface and underground water supplies
- improve the resilience of the land to drought, flood, fire and other environmental extremes
- restore the natural beauty of landscapes.

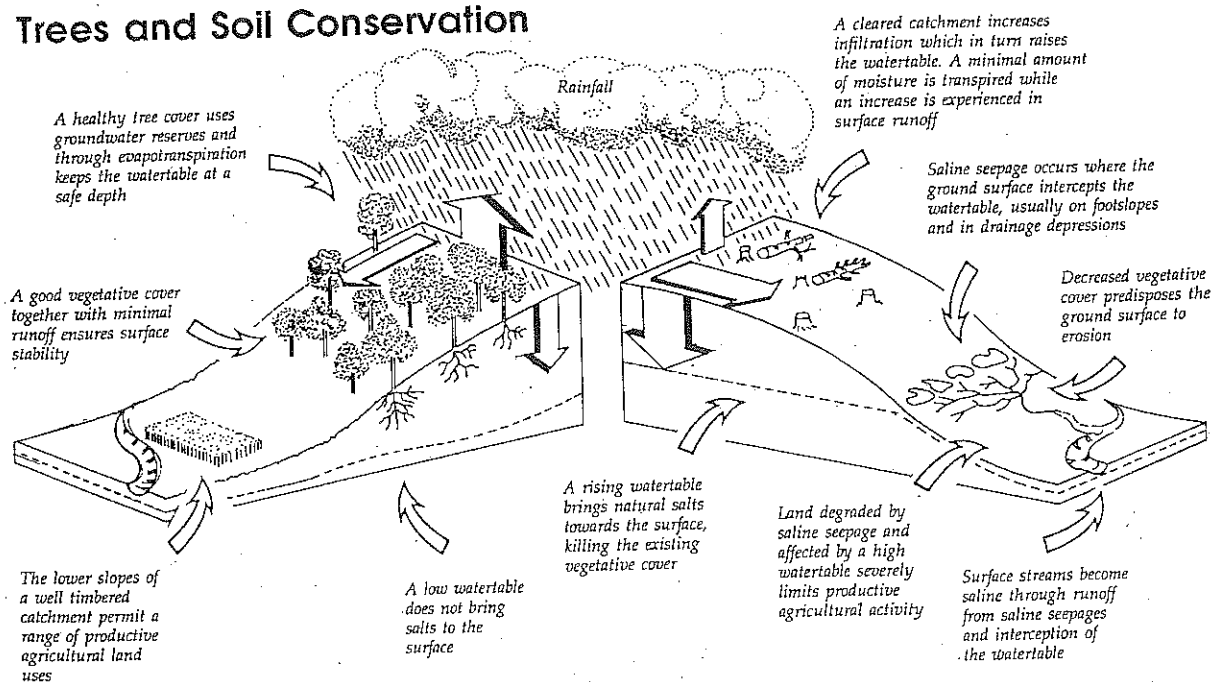
The preservation of native trees and vegetation is particularly important because these species have adapted to survive this country's natural cycle of fire, drought

Extent of Tree Clearing in Australia Since European Settlement



Source: Ive & Cocks, 'Rural Land Degradation in Australia', *The Australian Conservation Farmer*, (1989) Vol 1 (3) at page 1989.

Trees and Soil Conservation



Source: Based on a diagram in 'Yass Valley Soil Conservation Project', a publication of the NSW Soil Conservation Service, at pages 6-7.

and flood. They are needed by many of our native animals. And they are a valuable source of genetic variety.

Trees also help combat the greenhouse effect in the short run by providing a means of storing carbon dioxide.

Commonwealth Government Initiatives

In 1982, the Year of the Tree, the Government established the National Tree Program, with the objective of reversing tree decline in Australia. The program has been very successful in increasing public awareness of the value of trees and promoting action at individual, government and community levels to conserve, regenerate and plant trees. Through National Tree Program projects, millions of trees have been planted around Australia.

The Government has now decided to establish two additional programs to help protect and enhance our native tree and vegetation cover.

1. One Billion Trees

By the year 2000 the Government aims to have a billion more trees around Australia planted and growing. This new program - the One Billion Trees program - will commence this year with funding of \$4 million.

This will entail:

- A Community Tree Planting Program to plant over 400 million trees. This program will include;
 - financial assistance for community groups and landholders to implement tree projects on farms and in towns and cities
 - a schools nursery project to provide a hands-on learning experience for young people
 - major projects involving participation by community, corporate and government organisations.
- A Natural Regeneration and Direct Seeding Program to establish over 600 million trees in open areas of Australia;
 - this program will start with trials and demonstrations across the country to improve these methods of growing trees and to encourage wide scale action by landholders.

The Government is finalising with Greening Australia, the non-profit community organisation which administers the National Tree Program, the role it will play in the One Billion Trees program.

2. Save the Bush

The remnant areas of forest, woodlands, heaths, grasslands and wetlands which lie outside national parks and other reserves are an undervalued component of our

national heritage. They are also critical in ensuring the future of many of our unique species of plants and animals.

Most States recognise that maintaining these remnant vegetation areas is justified. South Australia has introduced particularly effective conservation measures. Clearing is prohibited without Government consent, and landholders who are willing to enter agreements to protect and manage areas of remnant bush receive assistance with fencing and other costs.

The Commonwealth considers that such efforts to conserve remnant vegetation need to be encouraged. Accordingly, \$1 million has been allocated in 1989-90 and \$1.5 million in 1990-91 to a Save the Bush program which will support remnant vegetation conservation programs.

A Future for Our Forests

The way in which we regard and use our remaining native forest areas has become a major public issue. At times the views of the forest industry and conservation groups seem diametrically opposed and irreconcilable. Yet the heart of the issue is a matter of balance - recognising that forests are valuable for a variety of reasons, and that forestry industry development needs to be balanced with the protection of other values, including biological diversity, air and water quality, soil conservation, wildlife habitat and recreation.

The Government is committed to achieving this balance and is pursuing the following objectives to secure the future of both the forests and the forestry industry:

- an environmentally responsible and sustainable forestry industry, with the highest standards of forest management
- the conservation of biological diversity and viable, representative forest ecosystems
- the promotion of efficient, value-added forestry industries (e.g. the processing of wood into pulp and paper products in Australia rather than overseas).

Key initiatives taken by the Government in achieving these objectives include:

A Forests Accord - the Government is committed to establishing a Forests Accord, a consultative mechanism in which dialogue and agreement between all interested parties can develop.

Resource Assessment Commission - the use of Australia's forest and timber resources is the first reference being given to the new Resource Assessment Commission.

A National Forests Inventory - work has started on this assessment of the values of our forests, costing \$2.9 million over three years.

Plantation Development - a further \$3.9 million will be provided over the next two years to the National Afforestation Program to hasten the establishment of hardwood plantations and so help reduce the forestry industry's reliance on native forests. This is in addition to the Government's commitment to funding of up to \$30

million over 5 years for plantation and afforestation projects as part of the settlement on the World Heritage listing of the Lemnathyme and Southern Forests. In allocating the plantation and other assistance funding for Tasmania, the Commonwealth will be guided by the advice of the new Tasmanian State Government.

National Afforestation Program (NAP)

Under the NAP, the Commonwealth funds State and Territory governments and forestry companies to help establish hardwood plantations and carry out research and demonstration projects in afforestation. The aim has been to help secure a resource base for the industry and reduce its reliance on native forests.

Begun in 1987-88, at a cost of \$15 million over 3 years, the NAP has led to the establishment of over 12,000 hectares of hardwood plantations, containing some 12 million trees, and doubled the hardwood plantation establishment rate.

An additional 5,000 hectares is being reforested for land rehabilitation and degradation control.

The Government will provide a further \$3.9 million to the NAP over the next two years, with the objective of reducing the industry's reliance on native forests.

Protecting Forests of World Heritage Value - over one million hectares of forest, including 900,000 hectares of rainforest, are protected by the Commonwealth under World Heritage listing. Around three-quarters of these forests are outside national park and reserve boundaries.

Forestry Operations in National Estate Forests - the Government will not approve forestry operations in National Estate forests when prudent and feasible alternatives exist. When these alternatives do not exist, logging may be allowed provided that action is taken to minimise damage to those values for which the area is registered.

Woodchip Export Licence Conditions - export licensing is an important means by which the Commonwealth can influence forest management. Licences are issued only after projects have been subjected to environmental impact assessment and when the Government is satisfied that the forests concerned will be managed on a sustainable yield basis and that the forest types will be adequately conserved.

Licences are issued on an annually renewable basis and continued approval is conditional on the company complying with the licence conditions, which may be varied. These conditions cover such matters as forest management, forest regeneration, and inspection of industry operations.

To encourage Australian value-added industry, woodchip exports are only approved after resource requirements of local industry have been satisfied. Licence conditions also typically require companies to undertake feasibility studies into the further processing of wood.

Commonwealth-State Forest Agreements - these are being negotiated with key forestry States in order to encourage and maintain the highest standards of forest management. The Agreements will address sustainable resource supply, environmental safeguards, the adequate reservation of forest types, and forestry research.

National Guidelines for Pulp Mills

The Government will develop exacting but achievable guidelines for bleached kraft pulp mills. These guidelines will be based on a report recently received from the CSIRO and will be finalised after consultation with the States and Territories, industry and conservation groups. Building on existing Commonwealth-State co-operative environmental impact assessment procedures, the Government intends to negotiate a joint assessment arrangement with the States for future pulp mill proposals. This would include acceptance of the guidelines as minimum standards and a consultation process to ensure Commonwealth concerns on any project are addressed. They will ensure that only those mills incorporating the very best in process and effluent technologies will be built in Australia. And they will ensure that mills will only be approved following thorough base-line studies and incorporating effective environmental impact monitoring and reporting systems.

Tropical Rainforest Initiatives

The Government has moved quickly to protect Australia's rainforests and reduce the level of destruction of tropical rainforests overseas. Measures include:

- the establishment in 1986 of the National Rainforest Conservation Program, with \$22.25 million being provided for a large range of rainforest conservation initiatives in co-operation with the States
- the inclusion of the Wet Tropics of Queensland on the World Heritage List, with provision of a \$75 million structural adjustment package over 3 years and the stopping of all commercial logging in the World Heritage Area
- the allocation of \$1 million to establish and maintain the Institute of Tropical Rainforest Studies in Cairns
- a consultancy by the Government to review the implications of restricting or eliminating rainforest timber imports into Australia
- a donation of \$250,000 to help establish a 180,000 square kilometre ecological reserve in the Amazon Basin, the largest tropical rainforest reserve in the world
- a contribution of \$60,000 through the International Tropical Timber Organisation towards a study into forestry management policies and practices in Sarawak.

The preservation of tropical rainforest is a complex and sensitive issue. Australia's contribution to tackling the problem of rainforest deforestation overseas is best made through the provision of technical assistance for management and protection and aid to develop alternative sources of wood supply and employment.

4.4 HUMANS AND THE ENVIRONMENT

Historic and Cultural Environment

The protection and preservation of Australia's cultural heritage is as important as the protection of our natural heritage. Historic sites, Aboriginal cultural places and historic objects such as documents and works of art are all a part of our cultural heritage and much of that heritage is intimately linked to the natural environment and people's relationship with it.

For the Commonwealth's part, the identification and protection of Aboriginal and historic places and movable cultural heritage is largely done through the Register of the National Estate. Items of historic and cultural significance listed on the Register as being of national estate value are as diverse as humble dwellings, historic cathedrals, streetscapes, convict ruins, galleries of Aboriginal rock paintings, and Aboriginal shell middens and camp sites.

A particular matter currently under examination with respect to the National Estate is the protection from undesirable export, under the Protection of Movable Cultural Heritage Act, of movable cultural items associated with places on the Register.

Joint management of Kakadu and Uluru (Ayers Rock-Mount Olga) National Parks by the Australian National Parks and Wildlife Service (ANPWS) and traditional Aboriginal owners has set new standards in the protection and conservation of significant cultural places.

At Kakadu and Uluru the ANPWS run training programs for ranger training, site protection and land management so as to involve the traditional owners as fully as possible in maintaining the Parks. In both Kakadu and Uluru, Aboriginals make up more than 30 per cent of the total park management workforce. ANPWS also assists State and Territory nature conservation agencies to establish similar programs.

Under the Aboriginal Employment Development Program, the ANPWS also administers a Contract Employment Program in Natural and Cultural Resource Management, assisting the State and Territory nature conservation agencies in the development of long-term recruitment, training and career development strategies for Aborigines. Traditional communities are also involved in natural resource management and heritage protection in other Commonwealth areas such as the Great Barrier Reef and Torres Strait.

The Aboriginal and Torres Strait Islander Heritage Protection Act 1984 is also a means by which the Commonwealth seeks to protect archaeological, sacred and historic sites, objects and skeletal material which are of particular significance to Aborigines or Torres Strait Islanders and which are under threat of injury or desecration. Although the Act is designed to encourage the States to take responsibility for such protective measures, the Commonwealth is empowered by the Act to place a protection order on a site or an object in dispute.

Museums and community based conservation organisations, such as the National Trusts, also play a vital role in promoting an understanding of cultural heritage issues. In particular, one of the themes of the National Museum of Australia will be the interaction of people with the environment, which will focus on the National Conservation Strategy.

The Commonwealth Government is interested in the possibility of a nomination to the World Heritage List of the Rocks area of Sydney. The New South Wales Government is pursuing this matter and has invited the International Council on Monuments and Sites to assess the qualities of the Rocks against the World Heritage criteria with the view to making such a recommendation.

The Urban Environment

Although we often think of the environment as being in the forests or mountains or oceans, 80 per cent of Australians live in an urban environment.

Large populations, with their demands for physical resources, such as land, housing, water, food and energy, and the industries and offices in which they earn their livings, have placed increasing pressure on the quality of the urban environment.

The key factors affecting the urban environment - urban planning, the movement of people (transport and traffic management), and public health (clean air and water, noise control, sewage and waste management) - are primarily the responsibility of State and local governments.

Housing and Land Supply

There are some aspects of the urban environment where the Commonwealth can and does play a role. The Commonwealth owns property in most cities, and the management of this property, particularly its re-development or disposal, affects the urban environment. The Commonwealth will consult with local authorities at an early stage in planning for any major changes in property usage to ensure that re-development or disposal contributes positively to that urban environment.

Australian cities have sought to rely on low density residential development to secure a quality urban environment. But, as our cities have grown, the resultant urban sprawl has consumed ever increasing tracts of rural land and stretched transport, waste disposal and other infrastructure services. Our city structures are increasingly less able to meet the needs and aspirations of our changing community. Land for residential purposes has become a scarce resource in major metropolitan areas, particularly Sydney and Melbourne. At the Special Premiers Conference on Housing in March 1989 the Commonwealth undertook to make Commonwealth land available for residential development to assist with this problem.

New approaches are needed if Australia is to improve the quality of life in the cities and minimise their impact on the environment. At the Special Premiers Conference, the Commonwealth announced programs totalling about \$9.0 million over three years. The programs will increase flexibility of land use, land and building

regulation, and increase housing choice and community acceptance of medium density development.

The Conference gave strong support to the 'Green Street' Joint Venture for More Affordable Housing which will demonstrate how greater housing choice can be achieved in a high-quality natural environment. The Joint Venture will also develop a Model Code for low-rise residential land development. The Commonwealth will also be encouraging the development of guidelines covering energy efficient and environmentally sound land development patterns and building design and siting principles.

Following the Special Premiers Conference, the Commonwealth will provide a further \$6 million over three years for co-operative projects developed jointly with State and Territory governments to increase land supply and the flexibility of land use.

The Commonwealth will give priority under this program to promoting analysis and community acceptance for economically, socially, and environmentally sound urban development patterns, including the implications of more compact city forms, and the opportunities for urban consolidation. This will include an assessment of under-utilised land in inner suburbs, including that blighted by past industrial pollution.

Air and Noise Pollution

Air and noise pollution greatly impair the quality of the urban environment. Motor vehicles are major creators of noise and smog. Vehicle emissions and noise are controlled through Australian Design Rules administered under the Commonwealth Motor Vehicle Standards Act 1989.

Since the 1970s stronger controls on vehicle emissions have been progressively introduced, culminating in the introduction in 1986 of unleaded petrol and stringent vehicle emission standards. This has brought about a significant reduction in pollution in our cities.

The standard for noise emissions from motor vehicles has also been tightened under the Australian Design Rules. The Australian and New Zealand Environment Council is preparing a report on strategies for traffic noise control.

In addition to research into alternative energy sources and technology for enhancing transport fuel efficiency, the Government's objective is to seek the co-operation of State governments to reduce transport energy consumption per capita by encouraging an integrated approach to public transport development and land use planning.

The Government will seek the co-operation of the States in ensuring that environmental factors are properly reflected in decisions about transport infrastructure development, use and pricing.

Similarly our cities are the major location for a large part of Australia's secondary industry, which is a significant contributor to air pollution. The National Health and Medical Research Council (NH&MRC) has proposed guidelines for the control of emissions from stationary sources such as factories. In consultation with the States,

Territories and industry, these standards will be reviewed by the National Occupational Health and Safety Commission, the Standards Association of Australia and other relevant national bodies.

Many people spend a great deal of time indoors, and the air quality within buildings can also affect health. The NH&MRC is developing national air quality goals for indoor air. Interim goals and a strategy for achieving them are to be produced by March 1990.

Assistance to Local Government for Environmental Management

Local government authorities in areas experiencing rapid growth are subjected to particularly severe financial and other pressures.

To assist in meeting these pressures the Commonwealth Minister for Local Government has approved a new grant category 'environment management' under the Local Government Development Program.

These grants will assist local government in such areas as coastal zone management, pollution control, recycling and waste management, infrastructure provision and planning.

Grants under the new category will also enhance local government's important role in increasing environmental awareness and fostering community co-operation at the local level.

Management of Waste and Industrial and Agricultural Chemicals

The treatment and disposal of the rapidly growing volumes of domestic and industrial waste poses major problems for the urban and surrounding environment. For most industries, the production of waste is a natural part of the manufacturing cycle. The major question facing countries like Australia is how best to minimise the production of waste and how best to store, recycle or dispose of such waste so that it has the least possible impact on the environment and the health of the community.

The NH&MRC and the Australian Water Resources Council have produced national guidelines for drinking water and sewage re-use. Consideration is also being given to developing standards for industrial waste discharge, sewage and industrial food processing waste water discharges. In addition, the Australian and New Zealand Environment Council has agreed that Commonwealth and State authorities will co-operate in developing national water quality guidelines.

The Commonwealth has allocated to the CSIRO an additional \$200,000 to supplement its current research on industrial waste and sewage treatment.

In conjunction with the States, the Commonwealth is also addressing the problems of managing hazardous and more intractable waste.

National Guidelines for the Management of Hazardous Wastes have been issued, setting out measures for the satisfactory management of hazardous materials. The Government will continue to encourage the implementation and further development

of these Guidelines, and in particular measures on the minimisation of hazardous wastes.

Intractable wastes present a significant problem for Australia. The Commonwealth, New South Wales and Victorian Governments are co-operating in the development of a facility for the safe disposal of this material. NSW has stated its interest in locating the facility in that State. The community is being offered extensive opportunity to comment, and to participate in the development of the proposal. The Commonwealth will provide an additional \$350,000 towards the operation of the task force which is to identify an appropriate site, and will continue to support the development of this facility.

The Commonwealth has also provided \$100,000 for the Northern Territory Government to conduct a study into the feasibility of establishing a low level radioactive waste repository in the Territory. The NT Government is currently assessing the study.

Waste management is not confined to Australian cities. There have been problems associated with dumping of waste at sea and the movement of waste across national borders. The Australian Government played a leading role in securing a world wide moratorium on the dumping of radioactive waste at sea. While Australia is not involved in the transfer of waste to other countries, it has been active in the drafting of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. To give effect to the Convention in Australia, the Government has drafted legislation to control the import and export of hazardous waste, and this is expected to be introduced later this year.

The Government is also seeking to protect the public and the environment from the harmful effects of industrial chemicals and to ensure a safer workplace and environment. New chemicals will be evaluated more thoroughly before they are put on the Australian market, as will selected chemicals already in use which may present health or environmental concerns. This is an important first step in providing:

- more information about chemicals, leading to a better anticipation of potential hazards
- earlier implementation of suitable control measures to lessen exposure to harmful chemicals
- better co-operation with the States on chemical issues.

The Government intends to legislate this year to regulate the use of industrial chemicals.

In 1988 farm chemicals valued at about \$800 million were sold in Australia. Misuse of such chemicals can have a harmful effect on the environment, destroy the confidence of our export markets, and be harmful to human health. The Australian agricultural and veterinary chemicals industry has developed training modules for sales representatives to ensure that farmers are made aware of the appropriate

methods of application. The Agricultural and Veterinary Chemical Act 1988 regulates the use of farm chemicals in Australia through a national registration scheme. When the Act is fully operational (complementary legislation is required in the States) it will be possible to ensure that only those chemicals which are approved by registered authorities are used.

The Government is also examining ways of:

- enhancing environmental monitoring of chemical levels in air, water, soil and living organisms to establish real levels of exposure
- upgrading testing of chemicals which could pose health or environmental hazards in food or other products.

The Government will review the Customs duty rates on unbleached sanitary goods, and sanitary goods bleached other than by a chlorine bleaching process, with a view to providing duty-free entry for such goods.

Recycling

Modern industrial society produces millions of tonnes of waste in the form of plastic and paper litter, bottles, cans and other rubbish. Much of this can be usefully recycled, which would not only reduce the waste disposal problem but would help overcome environmental problems that could arise from the breakdown of these products.

In more recent times, wastepaper recycling has received much attention as a means of reducing the pressure on native forests.

Government Initiatives to Promote Wastepaper Recycling

In recent years most Commonwealth Government Departments have experimented with wastepaper recycling strategies. The Prime Minister has asked all Ministers to report on the strategies which their Departments have adopted and ways by which these strategies may be improved or extended.

The Ministers for Administrative Services and the Arts, Sport, the Environment, Tourism and Territories are also investigating the possible use of recycled and unbleached paper in Government offices.

At the meeting of the Australian and New Zealand Environment Council on 6 July 1989 the Commonwealth and the States agreed to set up a working group to develop standards for recycled paper for government use and to examine further uses for low grade recycled paper.

The Government will introduce legislation to exempt from wholesale sales tax certain printing and writing paper, tissue and toilet paper and paper bags if they are made out of wholly recycled paper. We will also examine whether it is practicable to extend the exemption to any other recycled paper products.

In 1987-88 the Australian paper and paperboard industry recycled 759,000 tonnes of wastepaper, an increase of 114,000 tonnes on the previous year. Most recycled paper was used in the manufacture of packaging and cartons.

In that year, Australia recycled nearly 30 per cent of the 2.6 million tonnes of paper it consumed. Our performance is similar to America's 29 per cent, but well below the 50 per cent levels attained by the world leaders, Japan and the Netherlands. We exported 62,000 tonnes of wastepaper valued at \$10.6 million, our chief customers being India, Taiwan and Indonesia.

The Australian and New Zealand Environment Council is sponsoring a study of recycling of plastics litter. This study will take account of recent new technology introduced to Australia which allows the recycling of mixed plastics waste, and therefore promises to remove a major obstacle to wide recycling of consumer plastics.

Healthy Cities Project

In the final analysis, the quality of the urban environment will depend on an approach that takes into account the complex interrelationships between a range of demographic, social, and economic factors. With this in mind, the Commonwealth is supporting a Healthy Cities Pilot Project, involving Noarlunga, Canberra and Wollongong. The project uses an intersectoral approach developed by the World Health Organisation. It aims to involve all sectors of the community, both private and public, in the development of strategies and programs to promote better health throughout Australia.

Coastal Zone Management

The coastal zone is a diverse region where competing pressures for land use have led to conflict and controversy in recent years.

This zone is the location of most of Australia's population and most of its secondary industries. This places intense pressure on the coastal zone; for example in the form of marine pollution from land based discharges. The coastal zone is also a popular domestic and international tourist destination as well as being home to a large variety of wildlife, and an important source of the rare earth minerals.

In particular our coastal waters provide breeding grounds for important fisheries. Australia has a reputation for producing high quality seafoods. The future of this industry will depend on our ability to maintain the integrity and diversity of the marine environment.

Conflicts over resource use in the coastal zone occur where the development of one industry threatens another or where development threatens conservation and cultural values. The potential for conflict between the various interest groups will increase as the pressure on coastal resources increases.

The Government has decided to refer coastal zone issues to the Resource Assessment Commission. It will be consulting with States and Territories and other interested parties on the terms of reference, as required by the Act.

The Commonwealth will also establish a National Working Group on Coastal Management with representatives from all levels of government and industry and community groups to facilitate dialogue on coastal zone issues.

Tourism and the Environment

Tourism has risen dramatically to become Australia's second largest earner of foreign exchange. Our climate and our natural environment - wilderness, world heritage areas, beaches, forests and deserts are major attractions for Australian and overseas tourists.

Many of the most popular sites occur in very fragile areas. In some cases, tourism is dramatically changing the size and nature of local communities, particularly in the more remote parts of the country. Careful and sensitive planning and management of growth is required to ensure that vital natural areas which are the basis of much of the industry are not compromised.

In view of the damage that can be done to fragile places by individual tourists and tour operators, the Commonwealth welcomes not only the initiatives of the States to develop planning strategies for regional tourism development, but also the action taken by the tourism industry (through the Australian Tourism Industry Association) to develop a Code of Environmental Conduct for the industry.

Where the Commonwealth has responsibility for care of the environment, as in the Great Barrier Reef Marine Park and Kakadu and Uluru National Parks, the Government has management regimes in place and sufficient resources are provided to manage the impacts of tourism.

At the Tourism Ministers Council meeting in October 1988, the Commonwealth agreed to prepare draft environmental guidelines for tourism developments as an aid to the States and Territories in identifying their own requirements. The work is being conducted in consultation with the States' and Territories' tourism and environmental authorities, local governments, the tourism industry, developers and conservation organisations to ensure that all interests and areas of expertise are considered.

Energy

Extraction and utilisation of energy resources can degrade our environment. At the same time, energy remains fundamental to our standard of living and to our economic prospects and performance. Energy provides many of our essential needs such as lighting, heating and transport. It is a critical input to our manufacturing processes and is a major source of export income. Action by Australian producers to improve the efficiency of energy use will also lead to increased competitiveness as their energy demands increase.

Although Australians use a small percentage of the world's energy, we are among the highest per capita consumers. We have a responsibility to help conserve the Earth's limited resources and reduce emissions of greenhouse gases.

Australian cities generally suffer from poor planning, inadequate public transport and we rely heavily on the private car. In addition, we depend on coal-fired power stations and a massive grid system for our electricity.

This contributes significantly to emissions of greenhouse gases and energy wastage. On average when coal is burnt it releases up to 75 per cent more carbon dioxide than natural gas. Up to 8 per cent of energy is lost during transmission of electricity via the grid system. Per capita gasoline use in Australian cities is more than twice that of European cities. However, it should be acknowledged that Australian coal has a relatively low sulphur content and therefore is a cleaner energy source than coal produced in many other countries. Substitution of Australian coal for overseas produced coal could contribute to reduced global emissions of greenhouse gases.

To increase energy efficiency and conservation the Government will continue to support the development of new and renewable forms of energy generation that minimise damage to the environment. Since 1978, \$80 million has been allocated for research into alternative energy sources (such as solar, wind and tidal power), energy management and alternative end uses.

Specifically the Government will:

- increase its commitment to the development of energy conserving technologies and research into new and renewable forms of energy
- will place a higher priority on clean coal technology
- explore with State and local governments improved land-use planning and cost efficient and appropriate public transport systems
- encourage improved design and insulation of housing, more efficient lighting, heating and cooling of office blocks
- encourage industry at all levels to become more efficient energy users
- work with State, Territory and local governments, industry, unions and community groups to develop a national plan to increase energy efficiency and conservation an Australian response to international action on this issue.

Mining and the Environment

Like many of our land use based industries, the mining industry has a mixed environmental record, and has in the past caused serious environmental damage in some areas. Governments have been at fault, not only in failing to regulate environmentally damaging behaviour, but also as part of the mining industry. The Commonwealth, for instance, had an interest in the Rum Jungle Mine in the Northern Territory, which has recently been rehabilitated at substantial cost.

Today the mining industry has recognised that community expectations regarding environmental protection have changed. The industry has been at the forefront in developing land rehabilitation techniques and has built a considerable body of expertise in techniques to protect and restore the environment. The industry has endorsed the National Conservation Strategy for Australia and supports the concept of sustainable development as outlined in the Brundtland Report.

Mining will continue to make a significant contribution to the Australian economy in terms of jobs and export income. Governments have a responsibility to the community

and to future generations to ensure that mining operations are conducted responsibly, with mine owners accepting full responsibility for managing operations to minimise environmental impact, and for mine site rehabilitation.

The Government will continue to be involved, where appropriate, in setting environmental standards and monitoring performance in the mining industry. Where the legislative capacity exists, the Commonwealth will continue to protect environmentally valuable areas from mining where it is deemed in the national interest. The Government's decision to prevent sandmining at Shelburne Bay on Cape York is an example of this. The Government also continues to stand firm on its policy of not approving the export of mineral sands from Moreton and Fraser Islands.

Torres Strait Baseline Study

Torres Strait islanders, as well as commercial fishermen, have expressed concern about the effect on the Torres Strait marine environment of the current and potential mining developments in the region, particularly from mines in Papua New Guinea (PNG). The Government shares these concerns and has decided to fund a four year environmental study of the Torres Strait. Funds of \$150,000 in 1989-90 and \$200,000 in 1990-91 will be provided.

The study, which is to be conducted in close consultation with the PNG Government, will collect data which will determine the background level of metals and sediments in the Strait and assist in determining whether there is evidence of contamination from mining operations. It will aim to provide us with options for managing and protecting the Torres Strait environment.

Uranium

The Government accepts that particular care is required in the mining of uranium. With the States, the Commonwealth has developed Codes of Practice to cover uranium mining. In the Northern Territory, where the Commonwealth has a direct responsibility, close oversight by the Office of the Supervising Scientist (OSS) will be continued. The Commonwealth is conducting an internal review of the operations and management of the OSS.

In relation to Roxby Downs, the Minister for Primary Industries and Energy and the Minister for the Arts, Sport, the Environment, Tourism and Territories will be examining the consultative arrangements at that mine to ensure that appropriate environment requirements are being met.

All aspects of uranium policy are currently under review.

5. REVIEWING PROGRESS

This Statement reports on the state of the environment, based on our existing knowledge. Measures such as the establishment of research programs and the preparation of environmental data bases which are announced in the Statement will improve our knowledge both of environmental problems and the appropriate remedies.

As that knowledge is improved the Government's policy responses will be reviewed, so that at all times the Government's environmental policies are relevant and effective.

Community awareness of environmental issues is increasing all the time, and with it, the willingness of individuals to play an active part in preserving our heritage.

The Government welcomes this increasing community awareness and commitment; and it will continue to work with community and industry groups, State and local governments to ensure that together we pass on to future generations a rich natural and cultural heritage.