

CHAPTER 3: BIODIVERSITY

KEY POINTS

- The Commonwealth continues to implement the National Strategy for the Conservation of Australia's Biological Diversity.
- Natural Heritage Trust programmes are contributing significantly to achieving the Strategy's goal to protect biological diversity and maintain ecological processes and systems, both on and off reserve. The Bushcare programme funded 632 community and State/Territory agency projects through the One-Stop-Shop process at a cost of \$26.5 million.
- The Commonwealth is providing \$77.1 million in 1998–99, in cooperation with State, Territory and local governments, for Bushcare grants to landholders, land managers and the community for remnant vegetation protection and revegetation.
- The Commonwealth will provide \$22.6 million in 1998–99 to enhance Australia's National Reserve System.
- The Endangered Species Programme will receive \$6.8 million in 1998–99.
- In 1998–99 the Commonwealth will spend \$5 million on further implementation of the National Weeds Programme, and \$2.7 million on the National Feral Animal Control Programme.
- The Commonwealth is continuing its Comprehensive Regional Assessment of forest areas. There has been a substantial increase in the area of native forest protected following the signing of Commonwealth/State Regional Forest Agreements for the East Gippsland and Central Highlands regions of Victoria and for Tasmania. The RFAs have also provided the basis for future sustainable growth of forest industries.

Australia is home to about 10 per cent of the planet's biological diversity, of which 80 per cent is endemic reflecting Australia's long period of geographical isolation. Biodiversity conservation has been identified in the report *Australia: State of the Environment 1996* as perhaps Australia's key environmental challenge, a challenge linked through unsustainable land clearing and habitat destruction to land and water resource degradation. Sustainable agriculture and management of Australia's natural resources are intimately linked to conservation of our unique biodiversity. Together they constitute the core objectives of the Government's Natural Heritage Trust.

Australia works to conserve its biodiversity — at the levels of ecosystems, species and genetic variability within species — through the *National Strategy for the Conservation of Australia's Biological Diversity*, and through it fulfils its obligations under the *Convention on Biological Diversity*. Priorities are conserving biodiversity both on and

off reserves; addressing threats to biodiversity, particularly land clearance, feral animals and weeds; and building on knowledge of Australia's native species and ecosystems and how they function .

Table 3.1: Biodiversity — New Measures and Programme and Tax Expenditure Estimates

Description	1997–98 \$m	1998–99 \$m	1999–00 \$m	2000–01 \$m	2001–02 \$m
NEW MEASURES					
Tasmanian Forests RFA	28.4	28.3	23.3	–	–
Tasmanian Forests RFA — additional funding	–	6.8	3.2	–	–
Urgent Capital Works — Kakadu NP	–	0.9	–	–	–
PROGRAMME & TAX EXPENDITURE ESTIMATES					
Biodiversity Programme (a)	2.1	2.1	–	–	–
Off-Reserve Conservation					
Bushcare (b)	40.6	77.1	102.5	121.7	–
Reserves					
National Reserve System	11.0	22.6	21.0	25.0	–
Commonwealth Protected Areas (c)	25.7	29.5	26.9	25.8	25.7
Forests					
CRA's / RFA's (d)	67.6	51.9	29.1	2.6	0.2
International sustainable forestry	14.4	18.5	na	na	na
Feral Animals and Weeds					
National Weeds Programme (e)	5.4	5.0	6.1	5.5	–
Animal and Plant Quarantine Policy	6.1	7.7	8.2	8.2	8.2
National Feral Animal Control Programme (f)	3.7	2.7	2.9	2.3	–
Rabbit Calicivirus (g)	0.8	–	–	–	–
Plant pest eradication programmes	7.3	5.7	5.3	5.3	5.3
Wildlife Conservation					
Wildlife resource conservation	2.6	2.6	2.6	2.5	2.5
Threatened Species					
Endangered Species Programme	6.7	6.8	6.7	1.3	1.3
Sugar Coast Environment Rescue Package (h)	2.0	2.0	–	–	–
Information Base					
Australian Biological Resources Study	2.2	2.2	2.5	2.5	2.5
CSIRO (total) (i)	18.3	22.1	21.6	na	na
Biodiversity knowledge	4.3	4.5	4.6	na	na
Role of biodiversity in ecosystems	0.9	1.0	1.0	na	na
Innovative uses	0.6	0.7	0.6	na	na
Sustainable tourism	0.4	0.4	0.4	na	na
Conserving and monitoring biodiversity	5.6	6.0	5.7	na	na
Integrating with resource management	2.1	2.2	2.2	na	na
Managing pests, weeds and diseases	4.4	4.6	4.6	na	na
Bioinformatics	–	1.7	1.6	–	–
Feral animal control	–	1.0	0.9	–	–
Cooperative Research Centres (CRCs) (total) (i)	11.1	10.9	8.7	6.5	6.5
CRC for Tropical Pest Management	1.7	–	–	–	–
CRC for Biological Control of Vertebrate Pest Populations	2.1	2.0	–	–	–
CRC for Weed Management Systems	2.3	2.3	2.3	2.3	2.3
CRC for Conservation & Management of Marsupials	1.9	1.9	1.9	1.9	1.9
CRC for Tropical Rainforest Ecology & Management	2.2	2.4	2.2	–	–
CRC for Sustainable Tourism	0.9	2.3	2.3	2.3	2.3
Biosafety					
Regulation of gene technology	1.0	1.1	na	na	na
Nature-based Tourism					
National Tourism Development Programme	1.0	–	–	–	–

Table 3.1 Footnotes continued

New measures are expressed in outturn prices and other expenditure and revenue figures are expressed in 1998–99 prices.
Programme and tax expenditure estimates include the effect of new measures.
– denotes nil; na denotes not available.

- (a) For implementation of the *National Strategy* and fulfilling obligations under the *Convention on Biological Diversity*.
- (b) Includes funds for farm forestry administered through the Farm Forestry Programme, and for Property Management Planning administered through the National Landcare Programme. Bushcare also funds the Sugar Coast Environment Rescue Package, which is excluded from these figures. In 1998–99 \$69.5 million is funded through the NHT, with an additional \$7.6 million through NHT-related programmes.
- (c) A significant portion of this is funding for Uluru-Kata Tjuta and Kakadu National Parks which are World Heritage areas (see Chapter 9).
- (d) Funds for Comprehensive Regional Assessments of forests and for Regional Forest Agreements including \$90 million of new funding for the Tasmanian RFA, but excluding the remaining \$20 million for the Tasmanian RFA from the Natural Heritage Trust (because decisions on this funding are subject to the finalisation of the RFA implementation strategy), and excluding funds provided under the Forest Industry Structural Adjustment Package and the Wood and Paper Industry Strategy (because these are in large part directly for industry purposes). See Chapter 4 and Chapter 7 for plantation and farm forestry programmes.
- (e) Jointly administered by the Department of Primary Industries and Energy, and Environment Australia.
- (f) Jointly administered by the Department of Primary Industries and Energy, and Environment Australia. Excludes the \$800,000 for Rabbit Calicivirus.
- (g) Funded through the National Feral Animal Control Programme.
- (h) Funded through Bushcare.
- (i) This is the total of the figures against the indented descriptions below.

The National Reserve System Programme and Bushcare, both funded through the Natural Heritage Trust, address loss of biodiversity through both on- and off-reserve conservation. The Commonwealth is committed to a comprehensive, adequate and representative (CAR) reserve system, and implementation of strategies to protect old-growth forests and wilderness as part of the reserve system. The CAR reserve system allows for ecologically sustainable development. The aim is to manage Australia's native forests to conserve biological diversity, heritage, and cultural values, and at the same time develop a dynamic, internationally-competitive forest products industry based on native forests managed on a sustainable basis. Other programmes address a variety of issues including endangered species, invasive species and nature-based tourism. Funding for biodiversity and related programmes is shown in Table 3.1. The Coasts and Clean Seas Initiative described in Chapter 8 addresses biodiversity conservation in the marine environment.

Australia recognises that biodiversity conservation is critical for sustainable food production and the alleviation of poverty in many developing countries. The Commonwealth's aid programme supports the *Convention on Biological Diversity* and related conventions and agreements, such as the *Ramsar Convention* (see Chapter 5) and the International Coral Reef Initiative. Funding is directed to projects and programmes that strengthen institutions, help establish and manage national parks and protected areas, and promote the sustainable use of natural resources. Financial resources are also contributed to multilateral funds such as the Global Environment Facility. The Australian aid programme's support for biodiversity conservation-related programmes and projects in 1998–99 is estimated to be worth more than \$19 million.

IMPLEMENTING THE BIODIVERSITY CONVENTION AND THE NATIONAL STRATEGY

Over the past year, Australia has continued to implement the *Convention on Biological Diversity* through participation in the Subsidiary Body on Scientific, Technical and Technological Advice, Biosafety Protocol negotiating sessions, and the workshop on

indigenous knowledge and practices. Australia has provided information to other countries on the use of incentives, indigenous knowledge and practices, access to genetic resources, and the operations and work programme of the Convention.

Australia's first national report to the Conference of the Parties to the Convention recognised the serious problems affecting the conservation and sustainable use of Australia's biodiversity, but showed that Australia is well placed to meet its obligations under the Convention. Australian governments have developed a comprehensive range of programmes, strategies and policies, complemented by industry and community initiatives, to conserve and manage our biodiversity sustainably.

The implementation of the *National Strategy for the Conservation of Australia's Biological Diversity* is central to ensuring the conservation of Australia's biodiversity. The Commonwealth has developed a reporting mechanism to monitor progress towards its implementation, to identify gaps or problems, and to make recommendations on how these may be addressed. Reports on progress will be made to the Australian and New Zealand Environment and Conservation Council (ANZECC).

The Biological Diversity Advisory Council, the Commonwealth's premier advisory body on biodiversity, meets regularly to provide advice on biodiversity issues. Over the past year it has advised on a communications campaign for biodiversity and on enhancing the role of indigenous people in biodiversity conservation. In 1998 it will help develop a strategy to assist local government to implement biodiversity conservation measures.

BOX 3.1: EDUCATING OUR DECISION-MAKERS

The Biological Diversity Advisory Council has produced an information kit for politicians on biodiversity. The kit *Biodiversity: A politician's guide* has been distributed to all Federal, State and Territory politicians and to each local government council. The kit informs politicians of Australia's commitments under the *National Strategy for the Conservation of Australia's Biological Diversity* and the *Convention on Biological Diversity* as well as assisting them to engage meaningfully within their electorates on biodiversity issues and the operation of Natural Heritage Trust programmes.

OFFRESERVE CONSERVATION

Bushcare

Some 500 million hectares, or more than two-thirds of Australia's land area, are currently managed by private landholders, while about 40 million hectares are within the terrestrial reserves system. Conservation of biodiversity through reserves alone is clearly inadequate. Biodiversity outside reserves has, for many years, been affected by vegetation clearance and modification. For large parts of Australia only scattered remnants of the original natural vegetation exist.

BOX 3.2: BUSHCARE: THE NATIONAL VEGETATION INITIATIVE

The objectives of Bushcare are to reverse the long-term decline in the quality and extent of Australia's native vegetation cover by working cooperatively with communities, industries and governments to:

- conserve remnant native vegetation;
- conserve Australia's biological diversity, and
- restore, by means of revegetation, the environmental values and productive capacity of Australia's degraded land and water.

The historic and ambitious goal of Bushcare can only be achieved through the actions of land managers, supported through enabling institutional frameworks, technical advice and public investment consistent with achieving public benefits.

The Natural Heritage Trust **One-Stop-Shop** funding process will deliver Bushcare funds to regionally-based projects for on-ground works. The process involves the assessment of projects by community representatives and people with professional expertise in natural resource management at both the regional and State levels.

The **Bushcare Network** comprises three main elements: the Bushcare Coordinators, Regional Facilitators, and the Bushcare Support Network. This Network is expected to work with the community and with other natural resource management facilitators to ensure that Bushcare is understood and adopted nationally.

Other key elements of the Bushcare programme are:

- support for development and adoption of institutional reform including improved incentive mechanisms such as fencing subsidies and rate relief;
- enhanced support for large scale implementation of best practice vegetation management;
- promoting regional planning initiatives which integrate native vegetation management and biodiversity conservation into broader natural resource management arrangements;
- strategic advice on Bushcare investment from the Council for Sustainable Vegetation Management; and
- a commitment to monitoring and evaluation of Bushcare outcomes as an integral part of the wider Natural Heritage Trust suite of programmes.

BOX 3.3: COMMUNITY MONITORING ACTIVITIES

The 'Bird Atlas', prepared by Birds Australia over 1977 to 1981, was a strongly supported, community-based volunteer project. The information collected is still used extensively by government agencies, researchers, schools and the community in a wide range of conservation planning and land management applications. Bushcare and the National Wetlands Programme are funding a second bird atlas to a total of \$1.2 million over four years. The on-ground monitoring of bird populations from the 1977–81 surveys and involvement of thousands of volunteers nationally in information collection will be a significant outcome for the project. The project will also establish a long-term monitoring programme for birds. This information will provide a valuable framework for directing and evaluating the revegetation activities funded through Bushcare to maximise conservation benefits.

This has led to problems with both biodiversity conservation and the long-term viability of Australia's agriculture sector. Bushcare aims to address this situation by promoting activities that integrate sustainable native vegetation management principles with mainstream agriculture.

The Commonwealth provided funding of \$40.6 million for Bushcare in 1997–98 which allowed community groups, local and State governments to start work in improving the protection, management and reestablishment of native vegetation. \$26.5 million of this was provided for 632 projects through the One-Stop-Shop process. The remainder was used nationally to develop institutional and community frameworks and to support an increase in the extent and quality of native vegetation.

The Commonwealth will provide \$4 million over four years to 2001–02 for the Indigenous Land Management Facilitators Project to assist indigenous communities to access Natural Heritage Trust programmes and to support sustainable land management practices on Aboriginal land and on those public lands where indigenous people have a local interest. The Commonwealth will contract regional host agencies to employ the appointed facilitator. The likely host agencies include land councils, State agencies or other community groups.

Cape York Peninsula

In February 1998, the launch of the Cape York Natural Heritage Trust Plan confirmed the Government's election commitment to provide up to \$40 million to protect the outstanding environmental and heritage values of Cape York. The Plan was developed by the Commonwealth, in consultation with the Queensland Government. It will be delivered by both governments in partnership with key stakeholders from industry, indigenous communities and conservation interests.

Key elements of the Cape York Natural Heritage Trust Plan include up to \$23 million for a comprehensive voluntary property planning process and an enhanced and expanded network of Protected Areas. Funding will also be provided to develop and implement strategies to protect and conserve natural and cultural values on land managed by indigenous people. The key elements of the Plan will be underpinned by additional resources for capital works in protected areas, support for feral animal and weed control, a land rehabilitation programme, an assessment of natural and cultural values and further funding for threatened species management.

The Plan provides for a community grants programme to complement the work of both governments and their agencies in sustainable production and the conservation of natural and cultural values on the Cape. Both governments will also contribute funding to the proposed Cooktown Interpretative Centre which will increase the community's understanding of the Cape's unique environment.

The Cape York Regional Advisory Panel will facilitate community implementation of the Plan, providing advice and recommendations to both governments on the implementation of the Plan, and assessing Natural Heritage Trust funding applications. This panel will be assisted by the Cape York Property Plan Technical Group.

The Cape York Natural Heritage Trust Plan is an example of how Natural Heritage Trust funding can catalyse the implementation of an integrated regional strategy to deliver lasting environmental benefits. Trust funding will enable the Cape York community to protect an area of exceptional natural heritage, on behalf of the entire Australian community, and future generations.

RESERVES

National Reserve System

The Commonwealth will provide \$22.6 million in 1998–99 to further develop a comprehensive, adequate and representative National Reserve System. The Commonwealth is working with all levels of government, industry and the community to establish and manage new ecologically significant protected areas, provide incentives for indigenous people and other landholders to participate in strategically enhancing the National Reserve System, and to develop and implement best practice standards for its management.

To meet these objectives, the Commonwealth, with the support of the State and Territory nature conservation agencies, has developed the *Interim Biogeographic Regionalisation of Australia* and the *Interim Scientific Guidelines for Establishing the National Reserve System* as planning tools to help ensure the reservation of areas of highest priority. The acquisition of land for inclusion in the National Reserve System is funded jointly by the Commonwealth and the States and Territories. From 1998 onwards there will also be opportunities for community groups to assist with the identification and purchase of areas suitable for inclusion in the National Reserve System. In addition, owners of land of significance to the National Reserve System may seek to have such land recognised as a protected area.

The Commonwealth will provide \$1.9 million in 1998–99 to the Indigenous Protected Areas component of the National Reserve System Programme to establish and manage protected areas on indigenous owned estates, and to establish cooperative management arrangements for government owned protected areas between indigenous groups and the relevant government nature conservation agencies.

BOX 3.4: NARINGANINGALOOK — A PROTECTED AREA ON PRIVATE LAND

In 1997–98 the Commonwealth approved funding for the purchase of Naringaningalook, a property supporting endangered grassland communities in the high priority Victorian Volcanic Plain bioregion. The property will be covenanted and managed by the Trust for Nature (Victoria). This is the first time that the Commonwealth has assisted in the acquisition of a property to be managed as a private protected area.

In 1997–98 \$6.4 million was approved for expenditure under the programme, \$4.4 million was approved for land acquisitions, and \$900,000 for Indigenous Protected Areas. Other projects funded covered the establishment of protected areas on private land (see Box 3.4) and best practice protected area management.

The Commonwealth is also responsible for overall coordination of the National Representative System of Marine Protected Areas (see Chapter 8).

Commonwealth Protected Areas

The Protected Areas Programme proclaims terrestrial and marine areas of high conservation significance and manages fifteen protected areas covering 4.4 million hectares. The Commonwealth will provide \$29.5 million in 1998–99 to manage these areas.

Joint management arrangements with Aboriginal traditional owners are in place for three national parks — Booderee (previously known as Jervis Bay), Kakadu and Uluru-Kata Tjuta. Kakadu and Uluru-Kata Tjuta National Parks are included on the World Heritage list (see Chapter 9). In 1997 Uluru-Kata Tjuta National Park was selected as one of the three national finalists in the natural and cultural management category of the National Reconciliation Awards coordinated by the Council for Aboriginal Reconciliation.

Commonwealth Protected Areas such as Kakadu and Uluru-Kata Tjuta are major attractions for the Australian tourism industry. The record floods that devastated Katherine in January 1998 also damaged the southern end of Kakadu; an additional \$900,000 will be provided in 1998–99 to repair flood damaged roads and visitor facilities in the National Park.

In April 1998 the Government declared the Great Australian Bight Marine Park (Commonwealth Waters). Covering 2.3 million hectares, the park is a major contribution to the development of Australia's National Representative System of Marine Protected Areas and provides protection for the endangered Southern Right Whale, the Australian Sea Lion and other temperate marine life.

Other Commonwealth Land

Biodiversity protection is also provided on other Commonwealth land such as defence land (see Box 3.5). The Commonwealth has also made a substantial commitment to marine biodiversity conservation in Australia's Exclusive Economic Zone (see Chapter 8).

BOX 3.5: CONSERVATION MANAGEMENT OF THE DEFENCE ESTATE: HMAS CERBERUS

The Department of Defence makes every effort to comply with environmental best practice. HMAS Cerberus is a Naval Training Base on Westernport Bay in Victoria, established on 1,550 hectares of land including examples of pre-European habitat. The Base has an environmental officer and Defence staff and the local community have been mobilised into a dynamic environmental cooperative with activities including tree planting, weed removal, control of pest species and cooperative research into coastal mammal and bird species numbers and diversity.

FORESTS

Implementation of the National Forest Policy Statement

The National Forest Policy Statement (NFPS) sets out the broad conservation and industry goals for the management of Australia's forests agreed between the Commonwealth and State and Territory governments. Through the NFPS and in partnership with the States, the Commonwealth will:

- establish a comprehensive, adequate and representative forest reserves system that will be recognised as one of the world's best;
- assist in developing an innovative, internationally competitive and ecologically sustainable timber products industry and build certainty for those communities dependent on forests — not just for timber products but also for all the other benefits forests bring; and
- encourage cooperation in plantation establishment, management, harvesting and marketing between industrial processing companies and farmers while achieving ecologically sustainable management of plantations from establishment, to harvesting and reestablishment.

Regional Forest Agreements

Regional Forest Agreements (RFAs) between the Commonwealth and the States are the primary means to achieve the goals of the National Forest Policy Statement. The Government will provide \$51.9 million in 1998–99 for ongoing implementation of the RFA process.

Prior to signing an RFA, each forested region is assessed comprehensively for all forest values, including wilderness, old growth, biodiversity, national estate, indigenous, social, economic and world heritage values. Regional Forest Agreements identify how these values will be protected, either as part of the comprehensive, adequate and representative (CAR) reserve system or through off-reserve management, and ensure the commercial management and use of forests outside the formal reserves system occurs in an ecologically sustainable way. Economic and social impacts are taken into account to ensure the needs of regional communities are met and industry development opportunities identified.

Regional Forest Agreements have been completed for the East Gippsland and Central Highlands regions of Victoria and Tasmania. Commonwealth export controls no longer apply to wood sourced from native forests in these regions. Woodchip exports from areas not covered by RFAs will be prohibited from the year 2000.

The Tasmanian RFA included a Commonwealth commitment to provide financial assistance for employment and industry development (including plantation establishment and maintenance), voluntary conservation agreements to protect values on private land, and new reserve management. Funds have also been allocated to the Tasmanian Government for two interpretive centres to promote, among other things, an appreciation of Tasmania's forests. Funding for the Tasmanian RFA will total \$110 million over

three years. Industry development in other States has been funded through the Forest Industry Structural Adjustment Programme (not included in this Budget Statement).

By delivering a secure forest conservation reserves system and long-term access to forests for production uses, RFAs will provide the certainty needed for an ecologically sustainable and internationally competitive forest products industry and the opportunity for greater value adding. RFAs currently under negotiation will cover the major forest areas of Western Australia, South-East Queensland, the Eden, Upper and Lower Northeast and Southern regions of New South Wales, and the North East, Gippsland and West regions of Victoria.

The reform of environmental legislation outlined in Box 2.1 in Chapter 2 will not affect any arrangements entered into as part of an RFA. The Commonwealth will pursue separate legislation to confirm its RFA commitments.

BOX 3.6: NATIONAL FOREST INVENTORY

The National Forest Inventory (NFI) is managed through the Commonwealth Department of Primary Industries and Energy and has been allocated \$5 million over a four year period through the Natural Heritage Trust. The NFI forms the focal point for a range of objective information on Australia's forests. A cooperative venture between the Commonwealth and all State and Territory governments, the NFI collates and provides national data on forest attributes, uses and values, and facilitates access to information from those data. The Commonwealth is developing a website to facilitate access to NFI information.

Achievements over the past twelve months include:

- completion of national forest type, structure and tenure datasets;
- provision of data and information for the production of Australia's First Approximation Report for the Montreal Process on the Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests;
- first report of the National Plantation Inventory;
- contribution to the Comprehensive Regional Assessment (CRA) and Regional Forest Agreement (RFA) processes;
- contribution to the National Greenhouse Gas Inventory;
- development of the State of the Forests Report to be published in 1998; and
- provision of information on forest types and resource management issues through continued production of the Australian Forest Profiles series.

In 1998–99, more up to date forest information will be incorporated into the NFI, including data obtained through the RFA process, regional projects and an intensive forest mapping project across northern Australia.

International Forest Activities

Australia supports a range of forest sector activities as part of international initiatives to enhance forest conservation and achieve ecologically sustainable forestry management.

Assisting developing countries is an important area of involvement. The Australian aid programme's expenditure on sustainable forestry has gradually increased from \$8 million in 1991–92 to reach an estimated \$14.4 million in 1997–98. In 1998–99 the Government will provide \$18.5 million for international assistance in the forestry sector.

The principal policy forum for discussing international forest issues, and a priority area for the Government, is the United Nation's Inter-governmental Forum on Forests.

In recognition of the complex underlying causes of deforestation and forest degradation, Australia's overseas aid support to the sector extends from small, community-based rural projects to programmes concerned with international forestry policy and national capacity building (see Box 3.7). Much of the Government's aid focus on forests and forestry is in the Asia-Pacific Region. The Government is also giving increased policy attention to forest issues in the Region, principally through the Asia-Pacific Forestry Commission which is supported by the Food and Agriculture Organization.

BOX 3.7: SUPPORT FOR FOREST CAPACITY BUILDING

The South Pacific Regional Forest Genetic Project (\$2.6 million over three years to 1999) is designed to help conserve, improve and better use the genetic resources of regionally important, high value forest tree species, and to strengthen the capacity of Pacific Island country forestry agencies in providing services to support development of forest genetic resources.

The PNG Forestry Human Resource Development Project (\$20.1 million over four years to 1999) is also intended to assist sustainable forest management, focusing on the improvement of human resource development and training systems in the forestry sector.

The Commonwealth, in partnership with the States and Territories, is committed to implementation of the 135 proposals for action developed by the United Nation's Intergovernmental Panel on Forests (IPF). These actions were endorsed in June 1997 by the UN Special General Assembly which also established the Intergovernmental Forum on Forests (IFF) to oversee implementation of the IPF proposals. The Government, in cooperation with the States, is reviewing the IPF proposals for action with a view to assessing their relevance to Australia and the state of their implementation. In addition, the Government will continue to provide support to the IFF including such areas as forest conservation and protected areas. In consultation with the States and other stakeholders, the Government will also maintain a close involvement in the IFF's work in examining future possible international forest institutional and legal arrangements, including the option of a forest convention.

Following the Asia-Pacific Forestry Commission's endorsement of the Code of Practice for Forest Harvesting in the Asia-Pacific, the Government will continue its assistance to this project by supporting implementation activities in the Region. The Government will also support high priority activities arising from the report of the Asia-Pacific Forestry Sector Outlook Study.

Australia will continue to provide funding towards International Tropical Timber Organisation projects, having contributed funding to projects in Indonesia, Thailand, Fiji and the Philippines in the last twelve months. The December 1997 meeting of the Organisation's Governing Council was conducted under revised procedures designed to streamline Council operation. Australia played a major role in initiating this change and chaired the working group which developed the new procedures.

Cooperative Research Centre for Tropical Rainforest Ecology and Management

The CRC for Tropical Rainforest Ecology and Management undertakes research that contributes to the management planning and ecological sustainability of rainforest resources for continued urban, commercial and recreational uses. Research primarily focuses on biodiversity and dynamic processes of tropical rainforest ecosystems, current and potential usage of rainforests by tourists and economic and scientific strategies for establishing and growing rainforest trees.

The CRC is using molecular and landscape-dynamics research, which not only examines the molecular structure of rainforest flora, but also examines the region as a whole, to piece together patterns of rainforest biodiversity over the past 20,000 years.

FERAL ANIMALS AND WEEDS

Weeds

Weeds are widely distributed throughout Australia. They comprise a diverse group of invasive species which affect both the natural environment and agriculture. Agricultural weeds alone were estimated to cost the nation over \$3 billion. The Commonwealth will provide \$5 million in 1998–99 to implement, together with the States and Territories, key elements of the National Weeds Programme.

BOX 3.8: WEED RISK ASSESSMENT

The National Weeds Programme is supporting work by the Australian Quarantine and Inspection Service to revise its system of screening plant imports using a new Weed Risk Assessment System (WRA). Every proposed new plant introduction is assessed for its potential to behave as a weed in Australia. This includes three tiers of assessment: checking against a permitted list; using the WRA which assesses physical characteristics and known 'weedy behaviour'; and then, for any plant not clearly 'low risk' or 'high risk', post-entry growth trials will be required. A precautionary approach is used, and plants that are not low risk are not permitted into Australia.

The Commonwealth aims to enhance the capacity of States, local government and landholders to manage the impact of weeds. The Commonwealth is developing quarantine assessment procedures to address the risks of new pest plant introductions (see Box 3.8), management plans for weeds of national significance, and strategies to identify and manage plants with the potential to become weeds. The Commonwealth will provide \$7.7 million in 1998–99 to develop animal and plant quarantine policy.

Funding has been provided for the development of criteria to determine which weeds are of national significance. To date funds have been provided for the control of Rubber Vine and Prickly Acacia and the biological control of *Mimosa pigra*.

Feral Animal Control

The National Feral Animal Control Programme, a Natural Heritage Trust programme, aims to manage the impact of feral animals on the natural environment and agriculture. The Commonwealth is working with all levels of government, industry and the community to develop integrated and strategic approaches to managing the impacts of nationally significant feral animals.

The Commonwealth will provide \$2.7 million in 1998–99 to be used in cooperation with the States and Territories to focus on:

- developing and implementing threat abatement plans for key feral animals;
- developing best practice guidelines for managing the impact of key feral animals;
- identifying invasive species with the potential to become threats to the environment; and
- filling knowledge gaps in pest management.

The *Endangered Species Protection Act 1992* identifies key threatening processes as predation by European red foxes and feral cats, and competition and land degradation by feral rabbits and goats. The Act requires the formulation of a threat abatement plan for each process.

Draft threat abatement plans have been prepared for each of the four species which cause key threatening processes:

- the European red fox draft threat abatement plan was published for public comment in 1997 and comments on the draft will go to the Minister for the Environment with the draft plan for approval in 1998;
- the public comment period for the feral cat draft threat abatement plan ended in March 1998; and
- the feral goat and rabbit draft threat abatement plans will be published for public comment in 1998.

Funding under the programme has been provided for control of feral species, including work on an immunocontraceptive to depress fertility in foxes and the development of a cat-specific toxin. Foxes and feral cats are known to be a prime cause of the extinction or massive population decline of many of Australia's native animals.

National guidelines for managing the impact of feral animals are being prepared. Guidelines for feral horses, goats, foxes, rabbits and pigs have been published. Guidelines for rodents will be published in 1998 and for carp and wild dogs in 2000.

The Rabbit Calicivirus Disease (RCD) Monitoring and Surveillance Programme has been established to record the spread and impact of RCD across Australia. RCD has had a significant impact on rabbit numbers in arid and semi-arid areas of Australia, with more variable effects in wetter areas. Information from the programme will ensure RCD is put to best use in reducing the damage caused to agriculture and the environment by rabbits.

Plant Pest Eradication

The Commonwealth will contribute \$5.7 million in 1998–99 to plant pest eradication programmes with benefits for agriculture and biodiversity conservation. Contributions were made to programmes combat the Papaya Fruit Fly and Fire Blight in 1997–98. The Papaya Fruit Fly programme will continue in 1998–99 and beyond.

Also, the Australian Nuclear Science and Technology Organisation (ANSTO) assists the sterile insect programme of NSW Agriculture, as part of the Tri-State Fruit Fly Strategy, by irradiating approximately 15 million Queensland fruit fly per week.

Cooperative Research Centres

There are three Cooperative Research Centres (CRCs) undertaking research on the control of invasive species.

The CRC for Tropical Pest Management is working cooperatively with industry to improve the sustainable management of tropical pest, both plants and animals. They are researching systems and programmes to directly improve this problem through, for example, biological control and by providing advice and education to decision makers and end users on ways to manage the pest problems.

The CRC for Biological Control of Vertebrate Pest Populations aims to contribute to the better management of Australian biodiversity by limiting the growth of vertebrate pests through fertility control.

The CRC for Weed Management Systems is focused on improving the sustainability and productivity of Australian agriculture and the biodiversity of our natural ecosystems by developing integrated weed management systems, notably through the release of specific insects and pathogens. The CRC has developed and is releasing insects which are specific to controlling Paterson's Curse, Onopordum Thistles, Nodding Thistle, Spear Thistle, Variegated Thistle, Horehound, Emex, St John's Wort, Scotch Broom and Bitou Bush.

WILDLIFE CONSERVATION

The Commonwealth has committed \$2.4 million to wildlife conservation programs in 1998-99. In general the management of wildlife in Australia is the responsibility of States and Territories; the Commonwealth has responsibility for the management of

wildlife on Commonwealth lands and waters and the control of the export of wildlife products.

Trade in native species and products derived from them is regulated under the Commonwealth *Wildlife Protection (Regulation of Exports and Imports) Act 1982*. This Act gives effect to Australia's obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The Act requires that an appropriate management regime be approved to ensure that harvesting of a particular species is not detrimental to its survival.

The *Whale Protection Act 1980* provides for the conservation of all cetaceans (whales, dolphins and porpoises) in Commonwealth waters. Currently the Commonwealth, States and Territories are working together to develop a national framework for managing whale and dolphin watching. In early 1998 draft national guidelines for recreational whale and dolphin watching were made available for public comment and agreed guidelines should be operational by the end of the year.

THREATENED SPECIES

The Commonwealth will provide \$6.8 million in 1998–99 for the Endangered Species Programme for action on threatened species and ecological communities, threatening processes and community education and involvement to assist in the protection and conservation of Australia's native species and ecological communities in the wild.

The Commonwealth will also provide \$2 million in 1998–99 for the final year of the Queensland Sugar Coast Environment Rescue Package to assist the conservation of habitat critical for the mahogany glider in central coastal Queensland, which is listed as an endangered species under the *Endangered Species Act 1992*. The mahogany glider was re-discovered in 1989, having been presumed extinct since 1908.

Action on Species and Ecological Communities

The Endangered Species Programme provides for the conservation of nationally threatened species and ecological communities, primarily through recovery and threat abatement plans. Plans are undertaken in cooperation with the States and Territories and involve all stakeholders, including industry and community groups. The additional funding provided by the Trust is being used to facilitate recovery of species of high conservation priority. Table 3.2 summarises the status of preparation and implementation of recovery plans.

In 1997, the Act was amended and regulations passed to allow the listing of endangered ecological communities under Schedule 2. Subsequently, the Partnership Agreements developed between the Commonwealth and individual State governments included a commitment by each State that they would take action to stop any clearing of endangered ecological communities.

During 1997–98, around 350 amendments were made to the listings of species that are endangered or presumed extinct. These amendments are summarised in Table 3.3.

Table 3.2: Status of the preparation and implementation of Recovery Plans

Species	Number of threatened species	Recovery Plans prepared ^(a)	Recovery Plans in preparation	Recovery Plans being implemented
Mammals	49	22	2	5
Birds	98	19	3	14
Amphibians	15	17 ^(b)	1	13
Reptiles	52	3	7	1
Crustaceans	2	0	0	0
Annelid Worms	1	0	0	0
Fish	21	10	1	10
Plants	887	230	49	206
Total	1125	301	63	249

(a) Not all have been approved or adopted under the Act.

(b) Recovery plans have been prepared for a number of frogs identified in the Frog Action Plan but which have not yet been listed in the schedules to the Act.

Table 3.3: Amendments to the endangered and presumed extinct listings, 1997–98

Species	Number of species added to endangered ^(a) category	Number of species deleted from endangered ^(a) category	Number of species added to presumed extinct ^(b) category	Number of species deleted from presumed extinct ^(b) category
Mammals	6	1	–	1
Birds	13	3	1	–
Amphibians	5	–	–	–
Reptiles	6	–	1	–
Fish	3	–	–	–
Plants	201	66	26	20
Total	234	70	28	21

(a) Schedule 1 — Part 1 — Species that are endangered.

(b) Schedule 1 — Part 3 — Species that are presumed extinct.

For the first time in 1997–98, the programme allowed community organisations to apply directly for funding for activities which support the programme's objectives. This initiative allowed a range of new, community-based activities to be explored and supported, and the initiative will be expanded in 1998–99.

Action plans and conservation overviews review major plant and animal groups, identify species at risk and develop nationally agreed priorities for conservation action, including amending the Act's lists of nationally threatened species.

During 1997–98 an *Overview of the Conservation of Non-Marine Invertebrates in Australia* was published, and the preparation of conservation overviews for marine invertebrates and marine algae was commenced. Action plans on bats, seals and dugongs were finalised during the year, while work on a butterfly action plan, a marine fish action plan and a revised bird action plan was commenced.

The programme is complemented by the Regional Forest Agreements process, which is undertaking detailed surveys of forest vegetation, modelling the extent of threatened forest-dependent populations and minimum requirements for population viability, assessing threats to forest-dependent native species and agreeing management prescriptions to address those threats. Adequate reservation of critical habitat for threatened species is also a key consideration in each of the Agreements. The Regional

Forest Agreements also provide the basis for a sustainable and internationally competitive forest products industry (see Forests section in this chapter).

Threatening Processes

The *Endangered Species Protection Act 1992* provides for action on key threatening processes, and the preparation of nationally coordinated threat abatement plans. This benefits both common and threatened species. Threat abatement plans for the fox, the feral cat and the incidental capture (or bycatch) of seabirds during longline fishing operations should be operational by the end of June 1998.

The effective conservation of albatrosses requires that in addition to domestic conservation measures, action must be taken internationally to address the global decline in numbers. The Australian Government successfully nominated all southern hemisphere species of albatrosses to the Appendices of the Convention for the Conservation of Migratory Species of Wild Animals at the 1997 Meeting of the Conference of the Parties in Geneva. Australia is now actively pursuing the development of an Agreement under the Convention that would promote and coordinate global efforts to conserve albatrosses.

Other Natural Heritage Trust programmes also provide resources for the preparation and implementation of threat abatement plans. The National Weeds and National Feral Animal Control Programmes in particular carry out threat abatement activities for introduced and feral animals and weeds, including hosting national workshops to develop research and management priorities, and funding the preparation of national threat abatement plans.

Community Education and Involvement

In 1998–99, 10 per cent of the Endangered Species Programme’s budget will be dedicated to enhancing community education and involvement in threatened species issues. One example of the Programme’s innovative approach to community education and involvement is the Threatened Species and Threatened Birds Networks. These Networks each provide a networker in each State and Territory and are administered under contract by the World Wide Fund for Nature and Birds Australia. Networkers are particularly important for identifying opportunities for public participation in on-ground activities to protect threatened species, and in forging links between the community and government agencies.

BOX 3.9: USING THE INTERNET TO COMMUNICATE ABOUT THREATENED SPECIES

The Internet is being used to develop and distribute interactive educational materials and programmes, conservation action guides, and information about threatened species and ecological communities. It has proved to be a very successful mechanism for disseminating information and has allowed a number of innovative projects to be developed, such as the threatened species screensaver ‘Wildsaver’ and ‘Clockwork — hands on for habitat’, a self-directed theatre-based education package.

In 1997–98 particular attention was paid to using opportunities available on the Internet (see Box 3.9).

Cooperative Research Centre for Conservation and Management of Marsupials

The CRC for Conservation and Management of Marsupials is concentrating on the special problems unique to marsupials. They are dedicating their research to gaining an understanding of the fundamental aspects of marsupial reproduction and genetics to develop practical management tools and policies. The CRC has, to date, isolated and cloned essential reproductive genes and developed new protocols for artificial breeding. This research also has a direct application to understanding the processes threatening rare or endangered marsupials. An interesting aspect of this research is the partnership with Landcare Research International Ltd of New Zealand, where marsupials are a major feral pest. The CRC also aims to assist New Zealand in developing humane methods of marsupial population control.

INFORMATION BASE

Australian Biological Resources Study

The Commonwealth has committed \$2.2 million for the Australian Biological Resources Study in 1998–99. The Study aims to underpin conservation and ecologically sustainable management initiatives funded under the Natural Heritage Trust, in particular, by implementing the *National Strategy for the Conservation of Australia's Biological Diversity* requirements for increased knowledge about Australia's biota. There are four key objectives for the Study (see Box 3.10).

CSIRO

Research is essential to deal with the often unique nature of Australia's resources and to support the Commonwealth's biodiversity conservation programmes. The CSIRO's allocations on biodiversity research in 1998–99 include:

- \$4.5 million to improve and disseminate knowledge of biodiversity;
- \$1 million to understand the functional role of biodiversity in ecosystems;
- \$700,000 to develop new ways of using Australia's biodiversity;
- \$400,000 to develop sustainable tourism;
- \$6 million to conserve and monitor biodiversity;
- \$2.2 million to integrate biodiversity conservation with natural resource management; and
- \$4.6 million to manage environmental pests, weeds and diseases.

BOX 3.10: FOUR KEY OBJECTIVES FOR THE AUSTRALIAN BIOLOGICAL RESOURCES STUDY AND RECENT PROGRESS

Through its Participatory Programme, develop new knowledge about Australia's biodiversity, and help maintain and further develop taxonomic capacity in Commonwealth, State and Territory agencies and universities (For 1998, 52 taxonomic research projects were approved totalling \$1.3 million.)

Support professional training in taxonomy to counter a nation-wide decline in recruitment to the field. (For 1998, two postgraduate scholarships were awarded at \$18,000 each.)

Disseminate consolidated information on Australia's biota, including the publication of books, catalogues and monographs, as well as through the Internet and CD-ROM. (A major milestone has been the publication of the 1,200 page 'Mollusca: the southern synthesis' in the *Fauna of Australia* series.)

Promote taxonomic research, fieldwork and the dissemination of biodiversity information held in Australia's distributed biological collections, and in the wider global community, with government agencies, research organisations and professional societies and councils.

In addition, the CSIRO plans to spend \$2.3 million over 1998–99 and 1999–2000 on new work to improve its use of bioinformatics, allowing better access to, and analysis and visualisation of, genomic and biodiversity information. In the same period, it will spend \$1.9 million on novel technologies for feral animal control, focusing in particular on control of European carp in the first instance.

BIOSAFETY

Advances in genetic manipulation technology enable the insertion of new genetic material into both plants and animals. Consequently there is a need to identify and minimise potential risks to the environment. An international protocol is being developed under the *Convention on Biological Diversity* and, domestically, risk assessment of genetically modified organisms is undertaken by the Genetic Manipulation Advisory Committee.

In October 1997 the Government announced proposals, to be discussed with State and Territory governments, for comprehensive statutory regulation of gene technology. It is proposed that existing legislation, amended as appropriate, be used as far as possible to regulate the release of genetically modified organisms, and that new legislation be enacted to regulate contained research and fill gaps in the coverage by existing agencies. A non-statutory Gene Technology Office is proposed to coordinate gene technology regulation and administer the new legislation. The Commonwealth will provide \$1.1 million in 1998–99 for gene technology regulation.

NATURE-BASED TOURISM

Nature-based tourism presents Australia with the opportunity to make the most of the competitive advantage bestowed by its unique natural features, cultural heritage, and flora and fauna. A National Action Plan for Tourism is being developed that will articulate a strategy for sustainable tourism development.

National Tourism Development Programme

The National Tourism Development Programme has a component for environmental tourism projects. The Commonwealth provided \$1 million for these in 1997–98, the final year of the programme.

Cooperative Research Centre for Sustainable Tourism

The recently established CRC for Sustainable Tourism is focused on delivering strategic economic and ecological knowledge to assist in the development of a sustainable tourism industry. In the environmental area the CRC will develop improved ecosystem, environmental and heritage management tools and planning systems to enhance economic, social, cultural and business solutions and reduce deleterious impacts on natural resources and the environment.

Australian Tourist Commission Environment Strategy

The objectives of the Australian Tourist Commission's Environment Strategy include the monitoring, reporting on and reducing the impact of international tourism on Australia's natural environment. Activities promoted by the strategy include market research and communicating environmental messages through tourism information materials. The Commonwealth will provide \$30,000 to the Strategy in 1998–99.