

# Appendix 1—Australian State of the Environment Committee

## Committee members

The members of the Committee are:

Professor Bruce Thom (Chair), Director, Thombolo Pty Ltd and Chair of the Coastal Council of NSW, Emeritus Professor University of Sydney, Visiting Professor University of NSW

Associate Professor Bob Beeton, Head, School of Natural and Rural Systems Management, University of Queensland

Professor Peter Cullen, Director, Co-operative Research Centre for Freshwater Ecology

Ms Wendy McCarthy AO, Executive Director, McCarthy Management Pty Ltd

Mr Bill McLennan CBE, AM, Australian Statistician, Australian Bureau of Statistics (*till June 2000*)

Dr Libby Mattiske, Director, Mattiske Consulting Pty Ltd and member of the WA Environment Protection Authority

Dr Russell Reichelt, Director, Co-operative Research Centre for the Great Barrier Reef World Heritage Area incorporated as CRC Reef Research Centre.

Dr Alan Reid AM, Former CSIRO Division Chief. As a Fellow of the Australian Academy of Technological Sciences and Engineering, he directed the Inquiry into Urban Air Pollution that reported to the Commonwealth Government in 1997.

Dr Gaye Sculthorpe, Head, Department of Indigenous Cultures, Museum Victoria; and Commissioner, Australian Heritage Commission.

Mr Dennis Trewin, Australian Statistician, Australian Bureau of Statistics (*from July 2000*)

Mr Con Boekel, Assistant Secretary, Environment Information and Technological Strategies Branch, Environment Australia (*ex officio member*) (*from June 2000*)

Mr Stewart Needham, Assistant Secretary, Science and the Environment Branch, Environment Australia (*ex officio member*) (*till May 2000*)

Mrs Jenny Boshier, Director, State of the Environment Reporting Section (Secretary to Committee) (*ex officio member*) (*from June 2000*)

Dr Alex Zapantis, Director, State of the Environment Reporting Section (Secretary to Committee) (*ex officio member*) (*till December 1999*)

## Committee's terms of reference

The terms of reference given to the Committee by Senator the Hon. Robert Hill, Minister for the Environment and Heritage, in February 1999 were as follows.

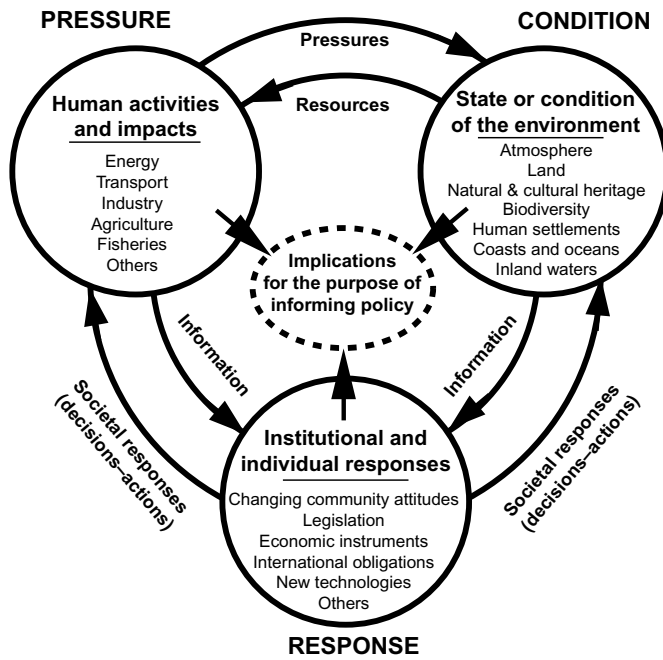
- 1 Supervise the preparation of the 2001 State of the Environment Report to ensure its scientific credibility, balance, coverage, independence and quality of work. Determine that the detailed structure of the Report is within the established reporting framework and is consistent with the Minister's letter of appointment. Keep the Minister advised on progress and present the completed report to the Minister.
- 2 Prepare the synthesis chapter of the 2001 State of the Environment Report, and determine and communicate its main messages to decision makers and the public.
- 3 Assist in promoting awareness of the 2001 State of the Environment Report to environmental managers, decision makers and the public.
- 4 Evaluate the efficiency of the state of the environment reporting process and the effectiveness of the 2001 State of the Environment Report in communicating to environmental managers, decision makers and the public.

The Committee was asked to concentrate on changes since 1996, to pioneer the use of indicators on a continental scale, and to fill gaps in areas that were not fully covered last time. Also they were asked to build upon the 1996 State of the Environment Report to ensure continuity of the State of the Environment reporting system.

## Secretariat

Current (and past) members of the State of the Environment Reporting Section:

John Armstead, Alex Davies, (Jim Derrick), (Geoff Dunn), Belinda Hack, (Gina Newton), Ian Robertson, (Allan Spessa), Gary Whatman and (Andrew Wynberg).



SoE reporting model.

Source: ASEC 1999.

### Peer reviewers

The Committee gratefully thanks the following experts for valuable peer review comments upon this report:

Wendy Craik (Earth Sanctuaries Limited)  
 Julian Cribb (CSIRO National Awareness)  
 Ann Hamblin (Bureau of Rural Sciences)  
 Jane Lennon (Jane Lennon & Associates)  
 Ian Lowe (Griffith University)  
 Peter Manins (CSIRO Atmospheric Research)  
 Steven Münchenberg (Business Council of Australia)  
 Peter Newton (CSIRO Building, Construction and Engineering)  
 Rosemary Purdie (Murray-Darling Basin Commission)  
 Sharon Sullivan (Sullivan Blazejowski & Associates)  
 Jan Williams (RMIT University)  
 David Yencken (University of Melbourne).

## Appendix 2—Environmental indicators for national state of the environment reporting

The scientific and technical basis for the indicators used in SoE (2001) is found largely in work commissioned by Environment Australia. This work is publicly available in the form of the following reports:

- Fairweather P & Napier G 1998, *Environmental indicators for national state of the environment reporting—Inland waters*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra.
- Hamblin A 1998, *Environmental indicators for national state of the environment reporting—The Land*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra.
- Manton M & Jasper D 1998, *Environmental indicators for national state of the environment reporting—Atmosphere*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra.
- Newton P, Flood J, Berry M, Bhatia K, Brown S, Cabelli A, Gomboso J, Higgins J, Richardson A & Richie V 1998, *Environmental indicators for national state of the environment reporting—Human settlements*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra.
- Pearson M, Johnston D, Lennon J, McBryde I, Marshall D, Nash D & Wellington B 1998, *Environmental indicators for national state of the environment reporting—Natural and cultural heritage*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra.
- Saunders D, Margules C & Hill B 1998, *Environmental indicators for national state of the environment reporting—Biodiversity*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra.
- Ward T, Butler E & Hill B 1998, *Environmental indicators for national state of the environment reporting—Estuaries and the sea*, Australia: State of the Environment (Environmental Indicator Reports), Department of the Environment, Canberra.

The above reports can be found on the Internet at:  
<http://www.ea.gov.au/soe/envindicators/index.html>.

## Appendix 3—People involved in SoE (2001) and the Theme Reports

The ASEC acknowledges the vital expert contribution made by the authors of the Reports. This provided a very significant foundation for SoE (2001). More than 106 experts (author teams and technical paper authors) contributed to preparing the Reports.

More than 70 specialists examined the Reports in draft form. In addition, many people provided information, usually at very short notice. These include individuals in state and territory government departments, private industry and voluntary organisations. Commonwealth government departments and members of the Commonwealth, state and territory ANZECC State of the Environment Reporting Task Force also helped identify errors of fact or omission. Their assistance is also gratefully acknowledged. The efforts of the data coordinators in State and Territory agencies were also appreciated.

### Reports

The 2001 State of the Environment Report is based on seven Theme Reports that are listed below. The Reports are available on the enclosed CD-ROM.

The full list of theme authors are presented within the Reports available from CSIRO Publishing and on the web at: <http://www.ea.gov.au/soe>.

Australian State of the Environment Committee 2001, ***Coasts and oceans***, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.

Ball J et al. 2001, ***Inland waters***, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.

Hamblin A 2001, ***Land***, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.

Newton PW et al. 2001, ***Human settlements***, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.

Lennon J et al. 2001, ***Natural and cultural heritage***, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.

Manins P et al. 2001, ***Atmosphere***, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.

Williams J et al. 2001, ***Biodiversity***, Australia State of the Environment Report 2001 (Theme Report), CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.

## Appendix 4—Resource management roles of major state/territory agencies<sup>A</sup>

Responsibility	Victoria	New South Wales	Queensland	Tasmania	South Australia	Western Australia	Northern Territory	Australian Capital Territory
Planning	Department of Infrastructure	Department of Urban Affairs and Planning	Department of Local Government and Planning	Department of Premier and Cabinet and Resource Planning and Development Commission	Department for Transport, Urban Planning and the Arts	Western Australian Planning Commission and the Ministry for Planning	Department of Lands, Planning and Environment	Department of Urban Services, Planning and Land Management
Public land management and Crown land	Department of Natural Resources and Environment	Department of Land and Water Conservation	Department of Natural Resources and Mines	Department of Primary Industries, Water and Environment	Department for Administrative and Information Services, Land Services Group	Department of Conservation and Land Management	Department of Lands, Planning and Environment	Department of Urban Services, Land and Property
Environment	Department of Natural Resources and Environment; Environment Protection Agency	Environment Protection Agency of NSW	Environmental Protection Agency	Department of Primary Industries, Water and Environment	Department for Environment and Heritage; (Environment Protection Agency)	Department of Environmental Protection	Department of Lands, Planning and Environment	Department of Urban Services, Environment ACT
National parks and reserves	Department of Natural Resources and Environment, Parks Victoria.	National Parks and Wildlife Service	Environmental Protection Agency	Department of Primary Industries, Water and Environment	Department for Environment and Heritage	Department of Conservation and Land Management	Parks and Wildlife Commission of the NT	Department of Urban Services
Water management	Department of Natural Resources and Environment, Regional Water Authorities, Regional Catchment Management Authorities	Department of Land and Water Conservation Sydney Catchment Authority, Sydney Water Corporation, Hunter Water Corporation, other Regional Water Authorities	Department of Natural Resources and Mines	Department of Primary Industries, Water and Environment	Department of Water Resources	Water & Rivers Commission & The Water Corporation	Department of Lands Planning and Environment	ACTEW Corporation Limited
Forestry	Department of Natural Resources and Environment	State Forests of NSW	Department of Natural Resources and Mines	Department of Infrastructure, Energy and Resources	Department for Administrative and Information Services, Forestry SA	Department of Conservation and Land Management & Forest Products Commission	Department of Primary Industry and Fisheries	Department of Urban Services
Natural, Indigenous and historic heritage	Aboriginal Affairs Victoria, Department of Infrastructure, Department of Natural Resources and Environment (inc. Parks Victoria)	NSW Heritage Office, Department of Aboriginal Affairs, Department of Urban Affairs and Planning, Department of Land and Water Conservation, National Parks and Wildlife Service	Department of Local Government and Planning (inc. QLD EPA and QLD Parks and Wildlife Service)	Tasmanian Heritage Council and Department of Primary Industries, Water and Environment	Division of State Aboriginal Affairs (part of Department for Transport, Urban Planning and the Arts), Department for Environment, and Heritage (inc. SA National Parks and Wildlife Service)	Heritage Council of Western Australia, Aboriginal Affairs Department, Department of Land Administration, Ministry for Planning, Department of Conservation and Land Management	Aboriginal Areas Protection Authority, Department of Lands, Planning and Environment, Parks and Wildlife Commission of the NT	Department of Urban Services

Responsibility	Victoria	New South Wales	Queensland	Tasmania	South Australia	Western Australia	Northern Territory	Australian Capital Territory
Source: <sup>B</sup>	<a href="http://www.vic.gov.au"><sup>C</sup></a>	<a href="http://www.nsw.gov.au"><sup>C</sup></a>	<a href="http://www.qld.gov.au"><sup>C</sup></a>	<a href="http://www.tas.gov.au"><sup>C</sup></a>	<a href="http://www.sa.gov.au"><sup>D</sup></a>	<a href="http://www.wa.gov.au"><sup>D</sup></a>	<a href="http://www.nt.gov.au"><sup>D</sup></a>	<a href="http://www.act.gov.au"><sup>D</sup></a>

<sup>A</sup> Although single agencies have been identified as a lead agency for the categories indicated, other agencies also have significant roles in these categories. Also the simplicity of this table in no way ignores the substantial responsibilities of local government for many of the categories indicated.

<sup>B</sup> The complexity between and frequent changes to state/territory agencies is such that website addresses are provided so the latest administrative arrangements can be obtained.

<sup>C</sup> Accessed 14 June 2001.

<sup>D</sup> Accessed 18 June 2001.

## Abbreviations

AAP	Australian Associated Press
AATSE	Australian Academy of Technological Sciences and Engineering
ACF	Australian Conservation Foundation
AGO	Australian Greenhouse Office
ANZECC	Australia and New Zealand Environment Conservation Council
AQIS	Australian Quarantine Inspection Service
ASEC	Australian State of the Environment Committee
AUSLIG	Australian Surveying and Land Information Group
BoM	Bureau of Meteorology
CAR	Comprehensive, Adequate and Representative
CCAMLR	Convention on Conservation of Antarctic Marine Living Resources
CFCs	chlorofluorocarbons
CITES	Convention on International trade in Endangered Species of Wildlife Flora and Fauna
CO <sub>2</sub> -e	carbon dioxide equivalent
COAG	Council of Australian Governments
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EEZ	Exclusive Economic Zone
ENSO	El Niño–Southern Oscillation
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
ESD	ecologically sustainable development
GIS	geographical information system
GMU	groundwater management units
IBRA	Interim Biogeographic Regionalisation for Australia
IMCRA	Interim Marine and Coastal Regionalisation for Australia
IPCC	Intergovernmental Panel on Climate Change
MARPOL Convention	International Convention for the Prevention of Pollution from Ships
MPA	Marine protected area
NAP	National Action Plan for Salinity and Water Quality
NDVI	Normalised Vegetation Difference Index
NEPM	National Environmental Protection Measure
NFF	National Farmers Federation
NGGI	National Greenhouse Gas Inventory
NGO	non-government organisation
NHT	Natural Heritage Trust
NLWRA	National Land and Water Resources Audit
NPI	National Pollutant Inventory
ppb	parts per billion
RCD	rabbit calicivirus disease
RFA	Regional Forest Agreement
SoE	State of the Environment
SoE (1996)	The 1996 State of the Environment report
SoE (2001)	The 2001 State of the Environment report
UV	ultraviolet
VKT	Vehicle kilometres travelled

# Glossary

<b>accretion</b>	any gradual increase in size through growth or external addition
<b>aerosol</b>	a suspension of particles, other than water or ice, in the atmosphere and ranging in size from about 5 nm to larger than 10 µm in radius; may be either natural or caused by human activity and most of the latter are usually considered to be pollutants
<b>air toxics</b>	gaseous, aerosol or particulate pollutants (other than the six criteria pollutants) present in the air in low concentrations with characteristics such as toxicity or persistence so as to be a hazard to human, plant or animal life
<b>airshed</b>	a body of air bounded by topography and meteorology in which a contaminant, once emitted, is contained for a period of time
<b>algal blooms</b>	a sudden proliferation of microscopic algae in water bodies, stimulated by the input of nutrients such as phosphates
<b>anthropogenic</b>	of human origin or human induced
<b>aquaculture</b>	commercial growing of marine (mariculture) or freshwater animals and plants in water
<b>aquifer</b>	an underground layer of soil, rock or gravel able to hold and transmit water. Bores and wells are used to obtain water from aquifers
<b>arid zone</b>	often arbitrarily defined in Australia as those areas receiving <250 mm of annual rainfall in the south and 350 mm (or sometimes higher) in the north
<b>atmospheric inversion</b>	a cool layer of air gets trapped below a layer of warm air and is unable to rise. This 'ceiling' leads to a build up of polluted air close to the ground and prevents vertical mixing and dispersion of smoke and other air pollutants
<b>Australia's marine area</b>	area of sea or sea bed for which Australia has jurisdiction under the Law of the Sea Convention. It includes the Australian Exclusive Economic Zone around the mainland, islands and the Australian Antarctic Territory (AAT) and the continental shelf off the mainland and the AAT.
<b>ballast water</b>	water carried in tanks to maintain stability when a ship is lightly loaded; normally discharged to the sea when the ship is loaded with cargo
<b>benthos</b>	plant and animal life associated with aquatic floor and the sea bed
<b>biodiversity</b>	variability among living organisms from all sources (including terrestrial, marine and other ecosystems and ecological complexes of which they are part) and includes: diversity within species and between species and diversity of ecosystems
<b>biogeochemical cycles</b>	the movement of chemical elements between organisms and non-living compartments of the atmosphere, aquatic systems and soils
<b>biomass</b>	the quantity of organic matter within an ecosystem (usually expressed as dry weight for unit area or volume)
<b>bioregion</b>	a territory defined by a combination of biological, social and geographical criteria rather than by geopolitical considerations; generally, a system of related, interconnected ecosystems
<b>biota</b>	all of the organisms at a particular locality
<b>blue-green algae</b>	an ancient order of algae (with characteristics of bacteria) that have become more common in water bodies due to disturbance and pollution. Some species produce toxins that can cause sickness and nerve and liver damage.
<b>broad-scale clearing</b>	removing vegetation, particularly trees and shrubs, from a landscape
<b>Burra Charter</b>	a document which sets out the principles, processes and standards for the conservation of the cultural environment. Also known as The Australia ICOMOS Charter for Places of Cultural Significance following the 1999 revision which was published by Australia ICOMOS Inc. in 2000.
<b>bycatch</b>	the catch of species other than those targeted by fishing activity
<b>carbon sequestration</b>	the uptake and storage of carbon
<b>catchment</b>	the area determined by topographic features within which rainfall will contribute to runoff at a particular point under consideration
<b>cetaceans</b>	whales, dolphins and porpoises
<b>chlorofluorocarbons (CFCs)</b>	synthetic products, which do not occur naturally and contain chlorine and fluorine; commonly used in various industrial processes and as refrigerants and, prior to 1990, as a propellant gas for sprays; deplete ozone in the stratosphere and are powerful greenhouse gases
<b>conservation</b>	In relation to biodiversity: the protection, maintenance, management, sustainable use, restoration and enhancement of the natural environment. In relation to natural and cultural heritage: conservation implies keeping in safety or preserving the existing state of a heritage resource from destruction or change
<b>contaminated site</b>	a site at which hazardous substances occur at concentrations above background levels and where assessment shows it poses, or is likely to pose, an immediate or long-term hazard to human health or the environment
<b>dryland salinity</b>	areas where soil salinity levels are high enough to affect plant growth

ecologically sustainable development (ESD)	using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased
ecosystem	a dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit
ecosystem services	organisms and environmental processes interacting to create a healthy environment for human beings, from production of oxygen to soil formation and maintenance of water quality
El Niño	an extensive warming of the central and eastern Pacific Ocean that leads to a major shift in weather patterns across the Pacific. In Australia (particularly eastern Australia), El Niño events are associated with an increased probability of drier conditions
endangered species	a species in danger of extinction and whose survival is unlikely if the causal factors continue. Included are species whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that the species are deemed to be in danger of extinction
endemic	native to a particular area and found nowhere else
energy efficiency	the means of using less energy in doing the same amount of work
enhanced greenhouse effect	the addition to the natural greenhouse effect resulting from human activities such as the burning of fossil fuels and land clearing, which increase the atmospheric levels of greenhouse gases such as carbon dioxide, methane, nitrous oxide, ozone and CFCs ( <i>see also</i> greenhouse effect)
environment	Includes: ecosystems and their constituent parts, including people and communities; natural and physical resources; the qualities and characteristics of locations, places and areas; the social, economic and cultural aspects of a thing mentioned in the previous three criteria
eutrophication	process by which waters become enriched with nutrients, primarily nitrogen and phosphorus which stimulate the growth of aquatic flora and/or fauna
exceedances	those times a measurement of a component goes beyond a specified limit
Exclusive Economic Zone (EEZ)	a concept recognised under the United Nations Law of the Sea, whereby coastal states assume jurisdiction over the exploration and exploitation of marine resources extending 200 nautical miles from the shore or baseline
extensive land use zone (ELZ)	those areas, where the most common land use is pastoralism and where grazing by domestic stock and, to a much lesser extent, repeated burning are the major pressures
fire regime	the pattern of fires at a location; includes the frequency, intensity and seasonality of the fires
fugitive emissions	greenhouse gases emitted in an uncontrolled manner, such as during fuel production, processing, transmission, storage and distribution, and include emissions from oil and natural gas exploration, venting, flaring, as well as the mining of black coal
garma	to the Indigenous people of north-east Arnhem Land, garma is an open forum where people can share ideas. In its application to the intercultural interface, garma means a set of opportunities to build protocols for culture and knowledge exchange in an open and equal way between groups in society
genetically modified organisms	organisms whose genetic make up has been altered by the insertion or deletion of small fragments of DNA in order to create or enhance desirable characteristics from the same or another species
global warming	<i>see</i> enhanced greenhouse effect
greenhouse effect	a term used to describe the role of atmospheric trace gases—water vapour, carbon dioxide, methane, nitrous oxide, ozone, in keeping the earth's surface warmer than it would be otherwise ( <i>see</i> enhanced greenhouse effect)
greenhouse gas emissions	emission of those gases that, by affecting the radiation transfer through the atmosphere, contribute to the greenhouse effect ( <i>see</i> enhanced greenhouse effect)
groundwater	the water beneath the surface that can be collected with wells, tunnels, or drainage galleries, or that flows naturally to the earth's surface via seeps or springs
halons	include bromofluorocarbons and bromochlorofluorocarbons, which are very stable chemicals that act similarly to CFCs in ozone depletion; previously used in fire extinguishers
heavy metal	metallic element with relatively high atomic mass (over 5.0 specific gravity) such as lead, cadmium, arsenic and mercury; generally toxic in relatively low concentrations to plant and animal life
heritage objects	may be <i>in situ</i> at significant sites or held in collecting institutions such as archives, libraries, museums, galleries, zoos, herbaria or botanic gardens or historic buildings
hydrocarbons	organic molecules containing hydrogen and carbon; the major components of petroleum
Indigenous peoples	Aboriginal and Torres Strait Islander peoples of Australia
intensive land use zone (ILZ)	the location of clearing where the greatest disturbance has been native vegetation clearance and replacement with exotic crops, pasture and forest vegetation
intertidal	between the levels of low and high tide
invasive species	a species occurring as a result of human activities beyond its accepted normal distribution and which threatens valued environmental, agricultural or personal resources by the damage it causes
invertebrate	an animal without a backbone composed of vertebrae (e.g. insects, worms, snails, mussels, prawns and cuttlefish)

<b>La Niña</b>	warming of the western equatorial Pacific warm pool, north of New Guinea, accompanied by cooling in the equatorial eastern Pacific Ocean. La Niña is often associated with above average rainfall in eastern Australia (see El Niño)
<b>Landcare</b>	a program to further sustainable land management
<b>macro algae</b>	large form of algae of simple organisms mostly aquatic containing chlorophyll and/or other photosynthetic pigments
<b>mangrove</b>	a plant (belonging to any of a wide range of species, mainly trees and shrubs) that grows in sediment regularly inundated by sea water
<b>melanoma</b>	a malignant tumour derived from pigment-containing cells especially in skin
<b>methyl bromide</b>	a highly effective fumigant used to control insects, nematodes, weeds and pathogens, listed as an ozone-depleting substance
<b>molluscs</b>	a phylum of invertebrates, including snails, clams, octopuses, squids, and others
<b>Montreal Protocol</b>	Montreal Protocol on Substances that Deplete the Ozone Layer, agreed in Montreal in 1987
<b>mid-latitudes</b>	extend from the Tropics (23° 30" N and S) to the Arctic Circle (66° 30" N) and the Antarctic Circle (66° 30" S)
<b>National Environment Protection Measures (NEMs)</b>	NEPMs are broad framework-setting statutory instruments defined in the NEPC legislation (see <a href="http://www.nepc.gov.au/">http://www.nepc.gov.au/</a> )
<b>national estate</b>	The National Estate, as defined in the <i>Australian Heritage Commission Act 1975</i> , 'consists of those places, being components of the natural environment of Australia or the cultural environment of Australia, that have aesthetic, historic, scientific or social significance or other special value for future generations as well as for the present community'
<b>Natural Heritage Trust</b>	a body established by the <i>Natural Heritage Trust of Australia Act 1997</i> to stimulate conservation, sustainable use and repair of Australia's natural environment
<b>non-point source</b>	a source not easily identified at a particular place, often referred as diffuse sources
<b>nutrient cycling</b>	is the repeated pathway of particular nutrients or elements from the environment through one or more organisms back to the environment: includes the carbon cycle, the nitrogen cycle, the phosphorus cycle
<b>old-growth forests</b>	forests dominated by mature trees and with little or no evidence of any disturbance such as logging, road building or clearing
<b>ozone depletion</b>	the natural equilibrium between chemical reactions forming and destroying stratospheric ozone is disturbed by the release of manufactured chemicals
<b>ozone layer</b>	a region in the stratosphere where there is a small, but significant, amount of ozone
<b>particulates</b>	very small pieces of solid or liquid matter, such as soot, dust, smoke or mist
<b>pathogen</b>	an agent (e.g. a virus, protozoa or bacteria) that causes disease
<b>PCBs (polychlorinated biphenyls)</b>	a group of chlorinated organic compounds that are non-corroding and resistant to heat and biological degradation; used as insulation in electrical equipment; can accumulate in some species and disrupt reproduction
<b>photochemical smog</b>	air pollution caused by chemical reactions among various substances and pollutants in the atmosphere in the presence of sunlight; ozone is a major constituent
<b>photolysis</b>	sunlight causing the chemical bonds in a molecule to break
<b>PM10 and PM2.5</b>	particles with aerodynamic diameters of up to 10 µm and 2.5 µm, respectively
<b>point-source pollution</b>	pollution from a easily discernable, single source such as a factory or sewage treatment plant
<b>potable water</b>	water pure enough to drink by humans
<b>proponent</b>	a person or organisation seeking approval to conduct a business or activity that impacts on the environment
<b>Ramsar Convention</b>	The Convention on Wetlands, signed in Ramsar, Iran, in 1971 providing the framework for the conservation and wise use of wetlands and their resources. There are presently 122 Contracting Parties to the Convention, with 1031 wetland sites, totalling 78.2 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance
<b>rangelands</b>	native grasslands, shrublands and woodlands that cover a large proportion of the arid and semi-arid regions, and also include tropical savanna woodlands; regular cropping is not practised and the predominant agricultural use, if any, is grazing of sheep and cattle on native vegetation
<b>Register of the National Estate</b>	the national inventory of places of natural, historic and Indigenous heritage significance, which have been assessed by the Australian Heritage Commission and deemed to be worth conserving for present and future generations
<b>regulated rivers</b>	rivers whose flows are controlled or regulated by releases made from dams to meet the needs of licensed uses
<b>remote sensing</b>	may be broadly defined as the collection of information about an object without being in physical contact with the object. Aircraft and satellites are the common platforms from which remote sensing observations are made
<b>rill erosion</b>	a form of erosion involving formation of shallow gutters which may be removed by cultivation
<b>riparian vegetation</b>	plants communities on the fringes and adjacent to water bodies
<b>river salinity</b>	increasing concentrations of salt in rivers and creeks caused by saline discharges from dryland, irrigation and urban salinity
<b>runoff</b>	portion of rainfall not immediately absorbed into the soil and which becomes surface flow

salinisation	the process by which land becomes salt-affected
salinity	the concentration of salts in water and/or soil
seagrass	intertidal and subtidal flowering plants found mainly in shallow waters of protected coastal waters
seamounts	remnants of extinct volcanoes found in Australia's deep marine environment. They are typically cone-shaped, 200 to 500 m high and several kilometres across and between 650 and 1000 m below the sea surface
semi-arid	lands where rainfall is so low and unreliable that crops cannot be grown with any reliability (see arid zone)
sinks	processes or places that remove or store gases, solutes or solids in accumulating parts of the environment
sodic soils	soils with a high proportion of sodium relative to calcium, potassium and magnesium in the composition of the exchangeable cations on the clay fraction
Southern Oscillation	a fluctuation in the atmospheric circulation, in particular over the tropical areas of the Pacific and Indian oceans; in general, when atmospheric pressures are high over the eastern Pacific Ocean they tend to be low in the eastern Indian Ocean and <i>vice versa</i> ; the fluctuation between the two produces a marked variation in parameters such as the sea surface temperature and rainfall over a wide area of the Pacific and has a cycle of two to seven years; the phenomenon is strongly linked to the El Niño
State of the Environment reporting	a scientific assessment of environmental conditions, focusing on the impacts of human activities, their significance for the environment and societal responses to the identified trends
sustainable	an activity able to be carried out without damaging the long-term health and integrity of natural and cultural environments
sustainable extraction limits	the volume of water extracted over a specific time frame that should not be exceeded to protect the higher social, environmental and economic uses associated with the aquifer
symbiotic	a close association between the individuals of pairs of species often leading to mutual gains
tectonic	forces or conditions within the earth that cause movements of the crust such as earthquakes, folds and faults
threatened	a species or community that is vulnerable, endangered or presumed extinct (as defined in the <i>Environment Protection and Biodiversity Conservation Act 1999</i> )
threatening process	a process that threatens, or may threaten, the survival, abundance or evolutionary development of a native species or ecological community
tillage systems	the sequence of all operations involved in producing the crop, including soil manipulation, harvesting, chopping or shredding of residue and application of pesticides and fertilisers
toxicant	a substance that could cause adverse effects in a living organism
turbidity	the extent to which the passage of light through water is reduced by suspended matter
volatile organic compound (VOC)	carbon containing compounds occurring in ambient air as gases or vapour with boiling points between 50°C and 260°C. The VOCs that participate in smog formation reactions are called reactive organic compounds (ROCs) (e.g. benzene, xylene and toluene)
wastewater	used water; in most cases is not suitable for drinking
World Heritage sites	sites of outstanding universal natural or cultural significance that are included on the World Heritage List

## References<sup>A</sup>

- ABS 1996, *CDATA 1996*, Australian Bureau of Statistics, Canberra.
- ABS 1997, *Australian transport and the environment*, ABS 4605.0, Australian Bureau of Statistics, Canberra.
- ABS 2000a, *R&D, Government and private non-profit organisations 1998–99*, Catalogue no. 8109.0, Australian Bureau of Statistics, Canberra.
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