

Human Settlements

FAVOURABLE NEWS

Streetscapes and parks in most urban centres have been improved significantly. There has also been some revitalisation of strip and village shopping centres.

Energy efficiency in residences has improved as a consequence of a variety of energy efficiency programs and increased use of insulation in buildings.

The reuse of treated wastewater and stormwater is increasing, but is still at low levels. Domestic water use per capita declined for most large urban centres during the 1990s because of water pricing, consumer education, use of water-saving appliances and higher residential densities (linked to lower outdoor water use).

UNFAVOURABLE NEWS

Existing pressures from human settlements are not consistent with a sustainable environment.

Uneven distribution of wealth in our human settlements means that some communities (e.g. Indigenous communities and small rural towns) do not always have the capacity to look after their environment.

Most indicators of resource consumption continue to outpace population growth. An example is personal mobility, as measured by vehicle kilometres travelled, which is increasing in metropolitan areas.

There is a high and increasing per capita energy usage in human settlements leading to increase in greenhouse gas emissions, particularly through electricity generation and transport usage.

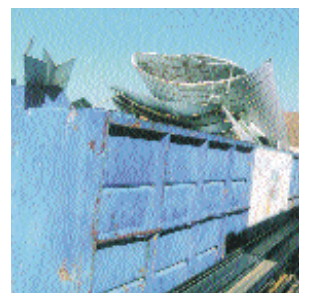
Environmental noise and its effects on residents are increasing as a result of trends such as increased residential density, traffic volumes and the 24-hour city.

UNCERTAIN NEWS

Reurbanisation has resulted in the growth of population and residential densities in the inner suburbs of Australia's major cities, reversing a pattern of consistent decline since early post-World War II. However, the overwhelming trend remains suburbanisation (the reverse process).

The volume of waste appears to have stabilised at a level which is high by international standards, and there has been a recent rapid increase in the quantity of hazardous waste generated.

The uptake of recycling of waste is mixed, depending on the waste streams. In some States, and for particular waste streams, recycling rates are approaching disposal rates. Waste reduction targets generally have not been met.



PHOTOGRAPHY CREDITS:

Beach: *Stimson.*
Sydney CBD: *Sydney Convention and Exhibition Centre, Darling Harbour.*

Noise barriers: *CSIRO.*
Recycling: *Peter Raynard.*

COVER PHOTOGRAPHY CREDITS:

Natural salt lake: *© John Baker.*
Tourists: *J Jones, Great Barrier Reef Marine Park Authority.*

Baltzer lookout: *© Andrew Morison, AJ Morison & Associates Pty Ltd.*
Painted turtle shell: *National Museum of Australia.*

FAVOURABLE NEWS

The protection of biodiversity values in Australia has progressed significantly with the enactment of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) being a major response since 1996.

A wide range of people and organisations is involved in protecting Australia's biodiversity (e.g. Landcare, Bushcare and Land for Wildlife). The Natural Heritage Trust has funded many of these programs since 1997.

The protection of biodiversity values now extends well beyond the reserve system into many non-reserve areas. The comprehensiveness and adequacy of the reserve system has improved.

In early 2001, the Commonwealth government declared land clearance as a key threatening process (under the EPBC Act) for biodiversity.

Urban biodiversity initiatives such as the Western Australian Government's *The Bush Forever* is a world leading program.

Industries have developed codes of practice on environmental management and employ biologists to evaluate biological values in many parts of Australia, rather than relying solely on biologists employed in public sector agencies.



UNFAVOURABLE NEWS

Many of the key threats to biodiversity identified in SoE (1996) still persist. Many threatening processes such as salinity, changing hydrological conditions, land clearing and fragmentation of ecosystems still pose major problems for protecting biodiversity.

The rate of land clearance rate has accelerated, with as much cleared during the last 50 years as in the 150 years before 1945. Only four other countries exceeded the estimated rate of clearance of native vegetation in Australia in 1999.

The loss and depletion of plant species through clearance destroys the habitat for thousands of other species.

Dryland salinity, one of the legacies of broadacre land clearing, is predicted to affect some two million hectares of native vegetation by 2050.

There is still limited knowledge on many biodiversity values in Australia.

Exotic organisms identified as a major threat to biodiversity in SoE (1996) remain so. Invasive species such as weeds and insects pose a serious problem.

UNCERTAIN NEWS

Although fire mapping has improved, the effect of various fire regimes on the conservation of biodiversity remains uncertain.



PHOTOGRAPHY CREDITS:

Button Wrinklewort: Murray Fagg, Australian National Botanic Gardens.
Remnant shrubby woodland: JJ Bruhl, University of New England.

Seagrass monitoring: Queensland Department of Primary Industries.
Mala: TW Norton.

FAVOURABLE NEWS

Overall conservation of heritage improved during the reporting period 1995 to 2000. Identification of many new heritage sites occurred through RFA surveys and some other large-scale regional studies.

A significant increase (16%, 11,000–13,000 places) in the number of heritage places listed on the Register of the National Estate has occurred during the last five years. A survey of 1,250 historic places found that many were in fair to good condition.

The National Museum of Australia opened in 2001.

The Australian Museums Online Database has been established.

Most museums' collections examined in a survey are in fair to good state. For the first time, collections of objects in universities have been surveyed.

The number of heritage places and landscapes that Indigenous peoples owned and managed increased slightly over the last five years. Thirteen Indigenous Protected Areas have been established since 1998 as part of Australia's National Reserve System.

The Return of Indigenous Cultural Heritage Property Program instituted in 1998 is facilitating the return of cultural property to Indigenous peoples from Australian museums and other collecting institutions.

Australia continues to be a leader in heritage practice. The Burra Charter, developed in Australia for the conservation of the cultural environment, is being used internationally.

The number of Australian World Heritage properties increased from 11 to 14 over the last five years.

UNFAVOURABLE NEWS

The loss of heritage places continues. Several thousand heritage places identified during the Regional Forest Agreements (RFA) process have not received protection by being added to heritage registers.

In contrast to the Natural Heritage Trust's assistance to natural heritage places, there are no long-term national funding programs of similar magnitude for Indigenous or historic heritage places.

Indigenous heritage is the most extensive category of heritage in Australia and is the most neglected.

The number of Indigenous languages and the percentage of people speaking them fell during the period 1986 to 1996. Of the 20 Indigenous languages classified as strong in 1990, by 1996 only 17 are considered strong and three have become endangered. All Indigenous languages may be lost in the next 100 years.

There is no coherent agreed national definition or shared view of what constitutes cultural heritage collections, despite the National Conservation and Preservation Policy and Strategy, Australia's Heritage Collections, released in 1998.

Documentation systems to meet the demands of scholarly and public access to small and large museums are idiosyncratic and inadequate.

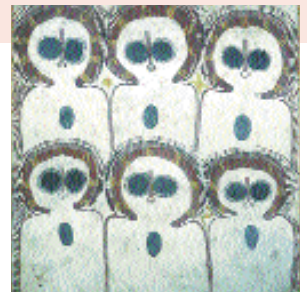
Limited resources are available for the systematic treatment of museum collections. Storage capacity is an issue for many organisations.

UNCERTAIN NEWS

Future heritage management arrangements and how these will affect conservation regimes are unclear.

The proposed demise of the Register of the National Estate will create gaps in the identification and conservation of heritage places.

It is difficult to gauge community support for heritage issues since there are no nationwide surveys of attitudes to, or support for, natural and cultural heritage.



Department of the Environment and Heritage

For more information about the 2001 Australia State of the Environment Report, contact Environment Australia's Community Information Unit on 1800 803 772 or by email at ciu@ea.gov.au, or visit the website at <http://www.ea.gov.au/soe>

Published by Environment Australia
February 2002

PHOTOGRAPHY CREDITS:

Orroral Homestead: Mike Pearson (2000).

Sea of Hands: Andrew Meares/The Sydney Morning Herald and National Museum of Australia.

Wandjinias: National Museum of Australia.

Mawson Hut: Rob Easter/Australian Antarctic Division (2001).



Key Findings



"The key to Australia's sustainable future lies in ourselves: our attitudes towards the environment, our heritage and each other. Positive change can be achieved when people see options for improvement in their quality of life and opportunities for their children and grandchildren. This change is accelerated when public awareness is translated into political action that influences the activities of our society to care for our country."

FAVOURABLE NEWS

Urban air quality has generally improved. Concentrations of sulfur dioxide, nitrogen dioxide and lead are not of concern in any urban area. Carbon monoxide is of concern in a few specific urban locations.

In rural and regional Australia, levels of most pollutants are well below actual or proposed standards. Sulfur dioxide emissions have decreased substantially in regional locations and are now of concern only in a few limited localities.

Accumulation of total chlorine from ozone-depleting gases in the stratosphere slowed during the early 1990s and is now declining slowly.

Public action in avoiding excessive ultraviolet radiation has increased significantly.

UNFAVOURABLE NEWS

There has been no decline in four-hourly concentrations of ozone in urban areas, indicating that photochemical smog in those areas is still an issue.

Australians have a high per capita level of greenhouse gas emissions by world standards. Greenhouse gas emissions increased by 16.9% between 1990 and 1998.

Dust and other particulates, including woodsmoke, are of concern in some regions and localities.

Australia has the highest per capita number of hay fever sufferers in the world, but monitoring is poor with the exception of Melbourne.

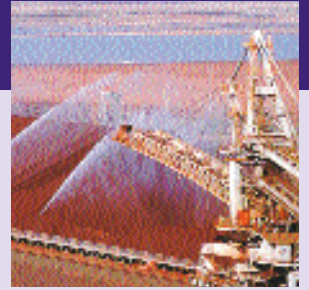
Since 1910, Australian average surface temperature has increased by 0.76°C, consistent with the global temperature increase of 0.6–0.7°C.

UNCERTAIN NEWS

Ozone loss over Antarctica appears to have stabilised during the 1990s, although there is no direct evidence of long-term ozone recovery.

Many of the warmest years on record have occurred in the 1980s and 1990s.

A mean sea level rise around Australia during the last 100 years appears to be about 12 to 16 cm. This value is consistent with the Intergovernmental Panel on Climate Change (IPCC 2001) global estimates for the previous century (10–20 cm).



Coasts and Oceans

FAVOURABLE NEWS

The fragmentation of ocean environmental planning and management has been addressed in Australia's Oceans Policy, released in 1998.

A new national management and emergency response system for introduced species is being trialed, after the Black Striped Mussel was found and eradicated from Darwin Harbour in 1999.

Bycatch Action Plans have been developed and implemented in Commonwealth-managed fisheries. In early results from trials, significantly fewer turtles were caught in the Northern Prawn Fishery as a result of using excluder devices on nets.

Local government, industry, community groups and companies now give more attention to urban stormwater management and prevention of litter pollution of coastal waters.

A further 17.6 million hectares of marine protected areas have been established since 1996, including the Tasmanian Seamount Marine Reserve.

The Natural Heritage Trust has provided substantial funding for coastal and marine environment issues since 1996. There has been significant participation in local and regional environmental actions as a result of this funding.



UNFAVOURABLE NEWS

Australian waters are more susceptible to exotic marine pests than previously thought, with threats to tropical habitats as well as to temperate habitats.

The management of the coastal environment, including catchments and estuaries, is still fragmented among many agencies at a local and state level.

Further loss of coastal habitat has occurred through the encroachment of human settlements and growth in pressures due to tourism in the coastal zone.

Pressures on Australia's coral reefs continue unabated from downstream effects of land use and other human activities.

Large nutrient loads of nitrogen and phosphorus are still being discharged to coastal and estuarine waters from both point sources and non-point sources.

Our national ability to measure the condition of coastal and marine waters through a system of standard indicators has not improved since SoE (1996).



UNCERTAIN NEWS

Our knowledge of the marine environment remains limited, particularly the status of many marine species and habitats and the deep sea environment.

The environmental effects of aquaculture activities are still not fully understood. Some activities have the potential to adversely affect the marine environment.

The coastal population continues to expand and the use of coastal resources is increasing. There is uncertainty in the ability of coastal ecosystems to absorb rising levels of sediment and pollutants from land uses in the coastal zone.



PHOTOGRAPHY CREDITS:

Fraser Island: Department of Foreign Affairs and Trade Photo Library.
Albatross: G Robertson, Australian Antarctic Division.

Prawn catch: A Elliot, Great Barrier Reef Marine Park Authority.
Leafy sea-dragon: D Muirhead, Marine Life Society of South Australia Inc.

FAVOURABLE NEWS

Compared with SoE (1996), much of Australia has better vegetative cover because of:

- several good seasons (La Niña years) after droughts in the early 1990s
- reduced sheep numbers (by 30%) since the late 1980s
- reduced rabbit numbers (up to 90%) from rabbit calicivirus disease (RCD), particularly in arid areas.

Indigenous involvement in land management has a higher profile than it did five years ago. Indigenous knowledge is being better integrated into policies and programs.

UNFAVOURABLE NEWS

There is still a net loss of vegetative cover. Broadacre land clearing continues in Queensland and New South Wales. This is one of the key threatening processes to biodiversity. However, it is difficult to verify the land areas that have been cleared since 1996.

Land degradation, including erosion, is still a major contributor of turbidity, nutrients and pesticides to waterways, as well as loss of soil fertility.

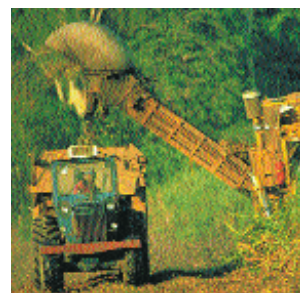
Altered fire and grazing regimes, pests and weeds continue to affect the health of the rangelands.

Large areas of acidic and sodic soils contribute to poor water quality, secondary salinity and loss of ecosystem function.

UNCERTAIN NEWS

Since the 1960s, there has been a dramatic increase in pesticide use, but regular monitoring in inland waters and in groundwater is uncommon. The effects on the environment are uncertain.

Because of lack of data on the number, location and status of contaminated sites, the environmental effects associated with these sites remain unknown.



PHOTOGRAPHY CREDITS:

Dieback: *Environment Australia.*

Prickly acacia: *Queensland Department of Natural Resources.*

Land clearing: *Ann Hamblin.*

Sugar harvesting: *Department of Agriculture, Fisheries and Forestry – Australia.*

Inland Waters

FAVOURABLE NEWS

Some appropriate Government responses to management of water resources have been adopted, but implementation is patchy, and the controls may not be sufficient.

The use of biological assessment of river health has developed to the stage where national assessments of river health can be achieved.



UNFAVOURABLE NEWS

Increasing pressures to extract surface and groundwater for human use are leading to continuing deterioration of the health of water bodies.

Surface water quality has deteriorated further in many areas because of increasing salinity. Difficulties of managing water resources across state borders continue to hamper effective management.

The complexities of the linkages between inland waters and their catchments are often beyond the capacity of our management systems.

As more controls are placed on the use of surface waters, more groundwater is used. The overuse of surface and groundwater resources affects aquatic ecosystems. About 26% of Australia's surface water management areas are close to, or have exceeded, sustainable extraction limits.

Water use has increased from 1985 to 1996/7 by 65% and water is overused in some regions.

Water extracted for irrigation has increased by 76% from 1985 to 1996/7.

The increase in salinity in the Murray–Darling Basin and other areas is causing water quality decline and land degradation. River water in several catchments is predicted to have salinity levels that will exceed drinking water guidelines within the next 20 years.

Although it is difficult to determine, the frequency, size and persistence of harmful algal blooms in inland waters seems to have increased over the past 50 years. Algal blooms in dams cost farmers more than \$30 million per year, and in rivers, storage and irrigation channels about \$15 million per year.



UNCERTAIN NEWS

It is difficult to assess the state of inland waters nationally, because of poor data availability and patchy water quality and stream flow data in some jurisdictions.



PHOTOGRAPHY CREDITS:

Fishway: Michael Shirley, Sinclair Knight Merz Pty Ltd.

Unstable stream bank: Robert Simpson.

Rainwater water tank: © Paul Kahrau.

Dryland salinity: Peter Richardson, CSIRO Land and Water.