

State of the catchments 2010

Threatened species

Western region

State Plan target

By 2015 there is an increase in the recovery of threatened species, populations and ecological communities.

Background

The *Threatened Species Conservation Act 1995* and *Fisheries Management Act 1994* list species, populations and ecological communities that are at high risk of extinction. A total of 177 threatened species occur or did occur within the Western region (Table 1).

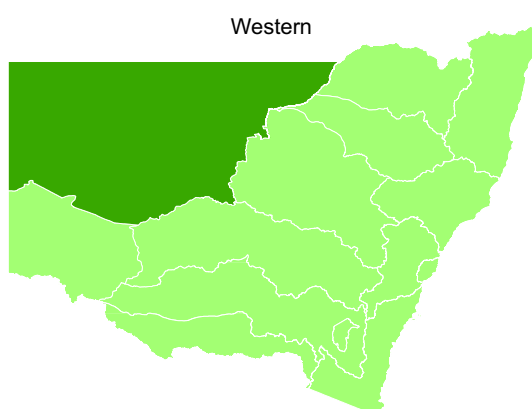
A detailed technical report describes the methods used to derive the information contained in this report. At the time of publication of the *State of the catchments (SOC) 2010* reports, the technical reports were being prepared for public release. When complete, they will be available on the DECCW website: www.environment.nsw.gov.au/publications/reporting.htm.

Note: All data on natural resource condition, pressures and management activity included in this SOC report, as well as the technical report, was collected up to January 2009.

Table 1 The number of species listed under the *Threatened Species Conservation Act 1995* or *Fisheries Management Act 1994* that occur or did occur in the Western region. The categories reflect different levels of extinction risk ('critically endangered' indicates the highest risk, and 'vulnerable' the lowest).

	Presumed extinct	Critically endangered	Endangered	Vulnerable	Total
Fauna					
Mammals	16	0	7	12	35
Birds	1	1	13	37	52
Amphibians	0	0	0	1	1
Reptiles	1	0	8	11	20
Fish	0	1	3	1	5
Invertebrates	0	0	1	1	2
Flora					
Plants	8	0	39	14	61
Algae	0	0	1	0	1
Fungi	0	0	0	0	0
Regional total	26	2	72	77	177
State total	76	21	549	409	1055

Map of the catchment



Assessment

Condition

Indicator: sustainability of threatened fauna and flora

Consistent with the intent of threatened species legislation, recovery is defined here as a decline in the risk of extinction. This is equivalent to an increase in the likelihood of a species being sustained. The sustainability of threatened fauna and flora species within the region was assessed using modified IUCN Red-List Criteria (IUCN 2001). In particular, estimates of total population size and distribution, trends in population size and distribution over time, and direct estimates of extinction risk from population modelling were used to score sustainability for each species at the regional scale. Species were assessed only if they were being actively monitored at a regional or larger scale. Endangered populations were not assessed.

Excluding species listed as presumed extinct, the sustainability of only one threatened fauna species could be assessed in the Western region. This species scored poor. In comparison, the sustainability of 31 threatened fauna species was assessed at the state scale, of which two (six per cent) scored good or very good. The sustainability of only one threatened flora species could be assessed in the Western region. This species scored good. In comparison, the sustainability of 11 threatened flora species was assessed at the state scale, of which two (18 per cent) scored good or very good.

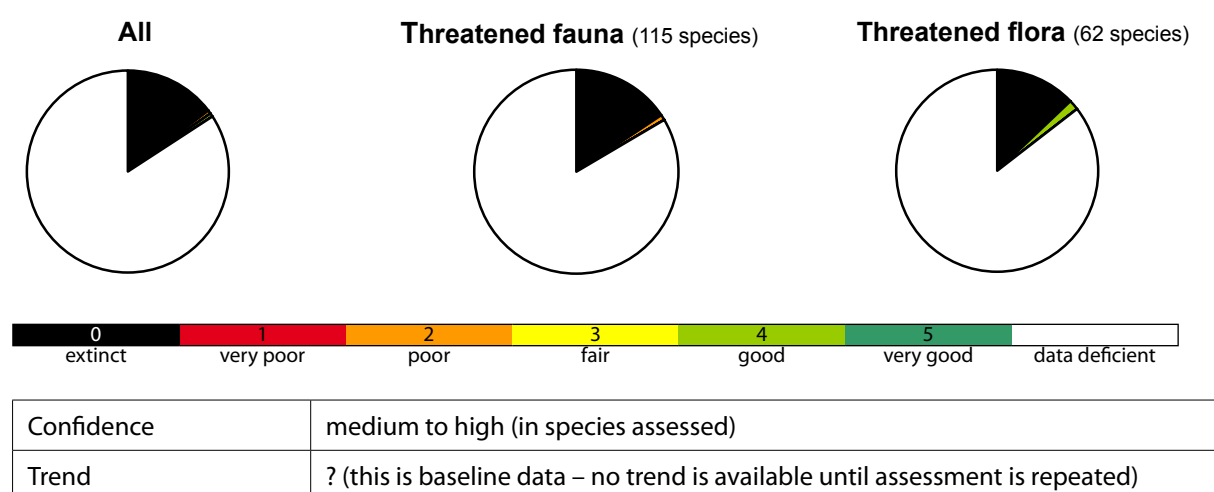


Figure 1 Sustainability of threatened fauna and flora within the Western region, assessed using modified IUCN Red-List Criteria (numbers are the scores used in the threatened species recovery assessment)

Index of threatened species' recovery

An index of threatened species' recovery was calculated as the mean of sustainability scores for all threatened entities that were able to be assessed. However, given that sustainability scores were available for only two of 151 threatened species within the region (excluding the 26 species presumed extinct), the index is inadequate without an increase in the number of threatened species being monitored.

Threatened species' recovery	3.0
Confidence	low
Trend	?

Pressures

Major pressures on threatened species in New South Wales include:

- the introduction of exotic animals and plants (see the invasive species report)
- the clearing and disturbance of native vegetation (see the native vegetation report)
- changes to fire regimes
- changes to water flows (see the riverine ecosystems, groundwater dependent ecosystems, and wetlands reports)
- the introduction of exotic diseases
- overfishing and fishing by-catch.

The interaction between these pressures and their relationship with trends in the status of threatened species are complex and cannot easily be summarised.

Pressure and response case study: foxes, goats and drought in the Western region

The yellow-footed rock-wallaby is an endangered species, which in NSW is only found in two adjacent ranges, both in the Western region: Gap Range and Coturaundee Range. Fox control commenced at Coturaundee Range in 1995, resulting in rapid population growth of the species in that area. Fox control began at Gap Range in 1999, but with little evidence of a response from rock-wallabies. The reasons for this lack of response are unclear, but may be a result of a less effective control program, lower reproduction in the Gap population, or greater competition from other herbivores such as emus and feral goats. The onset of drought in 2002 resulted in a crash in the Coturaundee population. However, recent trends suggest that both populations are now increasing with fox and goat control in place at both sites. The total population is estimated to have increased four-fold over the last 15 years, but remains at about 200 individuals.

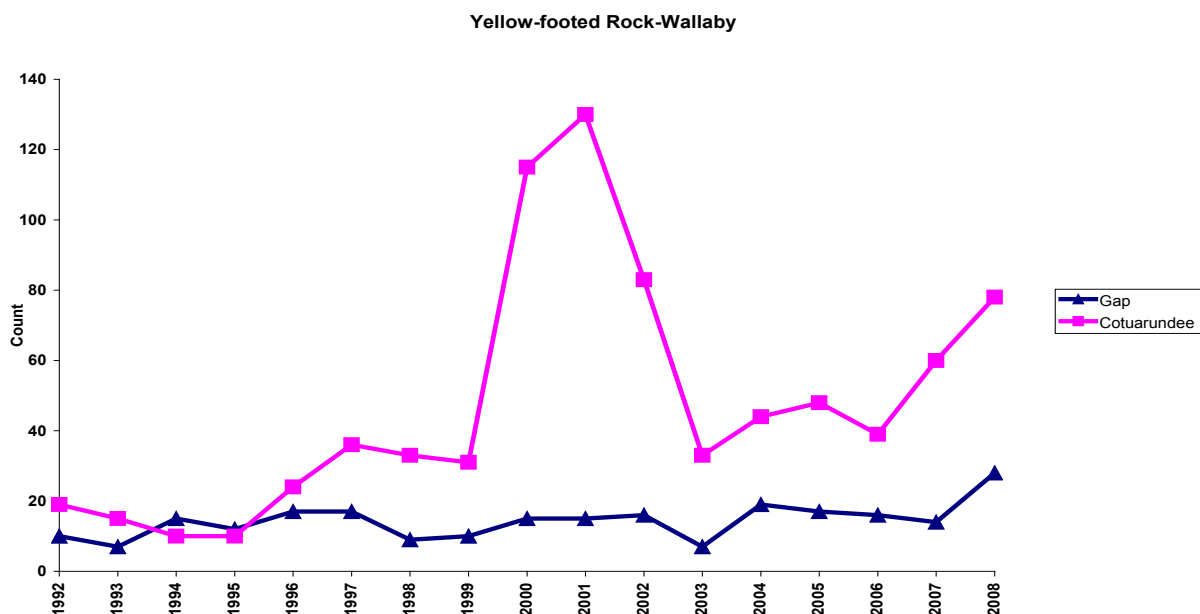


Figure 2 Aerial counts of the yellow-footed rock-wallaby. The Gap Range and Coturaundee Range populations are the only two populations in NSW.

Management activity

State level

There are a number of critical actions to improve the condition of threatened species, especially relating to the management of exotic animals and plants (pests), the condition and extent of native vegetation, water use and fire. Some of these actions are described briefly in the fauna report. Targeted actions to recover threatened species, populations and endangered ecological communities, and to manage key threatening processes, are described in the threatened species priorities action statement (PAS) for each species. This includes surveys to clarify the distribution of a species, weed and pest management programs, guidelines for threatened species issues in development assessments, research into factors influencing the survival of threatened species, and community education programs. Funding all PAS actions remains a challenge for government agencies; while there are numerous species listed as threatened, only a few are managed under recovery plans. Some threats, most notably those posed by cats and chytrid fungus, remain largely unaddressed due to the lack of effective control techniques.

Other actions include:

- protection and rehabilitation, through:
 - preparing nominations for threatened ecological communities for the Scientific Committee and preparing identification guidelines
 - preparing recovery plans
 - preparing priorities action statements
- research, including:
 - collecting, storing and researching the seeds of NSW flora, through the NSW Seedbank's SeedQuest program. To date, 35 per cent of NSW species, including 30 per cent of the state's threatened species, are represented in the seedbank. Seed-related information (eg germination and viability information) is available on most species collected. Where possible, representative populations of threatened species are held in the seedbank and may be available for translocation or research
 - an ongoing program of botanical research into the plants of NSW, run by the National Herbarium of NSW at the Botanic Gardens Trust. This research includes the identification and description of threatened plant, algal and fungal species. The identification and naming of threatened species is the first key step in understanding these species
- education, including:
 - Industry & Investment NSW (I&I) courses on subjects including property management planning for natural resources management and vertebrate pest management. More information on I&I courses is available at www.dpi.nsw.gov.au/agriculture/profarm/courses.

Regional level

At the regional level, the Western Catchment Management Authority (CMA) is undertaking the following activities in relation to the threatened species target:

- developing, in collaboration with DECCW, an inventory of areas with high conservation value that can be targeted for protection. This may include endangered ecological communities or habitat supporting threatened species and populations

- implementing an incentive program to provide landholders with funding to protect areas of high conservation value (HCV). Requirements of landholders will include removing stock from the HCV areas and undertaking ongoing management of threats such as pest animals and plants
- implementing a funding program called 'Enterprise Based Conservation' to encourage landholders to manage lands for conservation as an alternative viable enterprise. The program involves the removal of stock and subsequent conservation management in dedicated areas. It is anticipated that such programs will improve and protect the condition of habitat for threatened species
- operating incentive programs to encourage landholders to undertake riparian and wetland management. It is anticipated that such programs will improve and protect the condition of habitat for threatened species
- implementing an incentive program to provide landholders with funding to install fencing and trap yards to assist with the removal of feral goats, which are considered a key threat to native fauna populations
- employing a dedicated biodiversity officer to liaise with DECCW on threatened species issues
- working with DECCW to develop a rangeland conservation initiative to strategically manage climate change threats to biodiversity in the rangeland
- working with the National Reserve System (NRS) program to develop the 'Protected Areas on Private Land' processes and protocols, to achieve both NRS and Western CMA targets for protecting biodiversity.
- engaging a PhD student to determine the management needs of NSW mound springs.

Further reading

IUCN 2001, *IUCN Red List Categories and Criteria: Version 3.1*, IUCN Species Survival Commission, IUCN, Gland, Switzerland and Cambridge, UK.

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