



# Threatened species

## Southern Rivers 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 270 threatened species occur or did occur within the Southern Rivers region (Table 1).

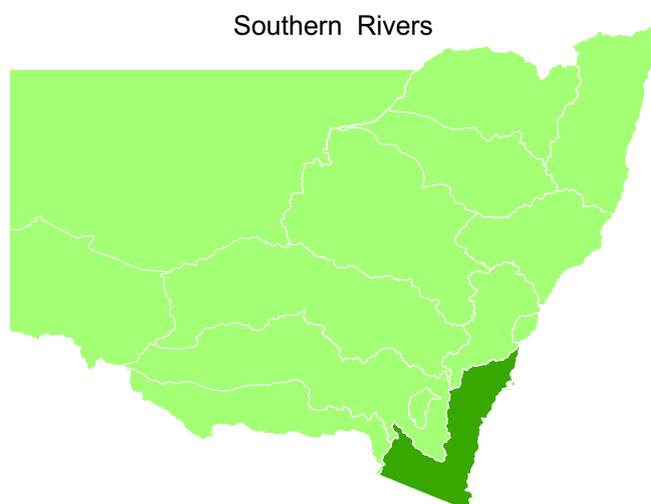
A detailed technical report describes the methods used to derive the information contained in this report. At the time of publication of the *State of the catchments (SOC) 2010* reports, the technical reports were being prepared for public release. When complete, they will be available on the DECCW website: [www.environment.nsw.gov.au/publications/reporting.htm](http://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 Southern Rivers 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
<b>Fauna</b>					
Mammals	2	0	7	26	<b>35</b>
Birds	0	1	16	67	<b>84</b>
Amphibians	0	0	9	4	<b>13</b>
Reptiles	0	0	3	6	<b>9</b>
Fish	0	0	2	0	<b>2</b>
Invertebrates	0	0	2	0	<b>2</b>
<b>Flora</b>					
Plants	1	5	64	55	<b>125</b>
Algae	0	0	0	0	<b>0</b>
Fungi	0	0	0	0	<b>0</b>
<b>Regional total</b>	<b>3</b>	<b>6</b>	<b>103</b>	<b>158</b>	<b>270</b>
<b>State total</b>	<b>76</b>	<b>21</b>	<b>549</b>	<b>409</b>	<b>1055</b>

## Map of the catchment



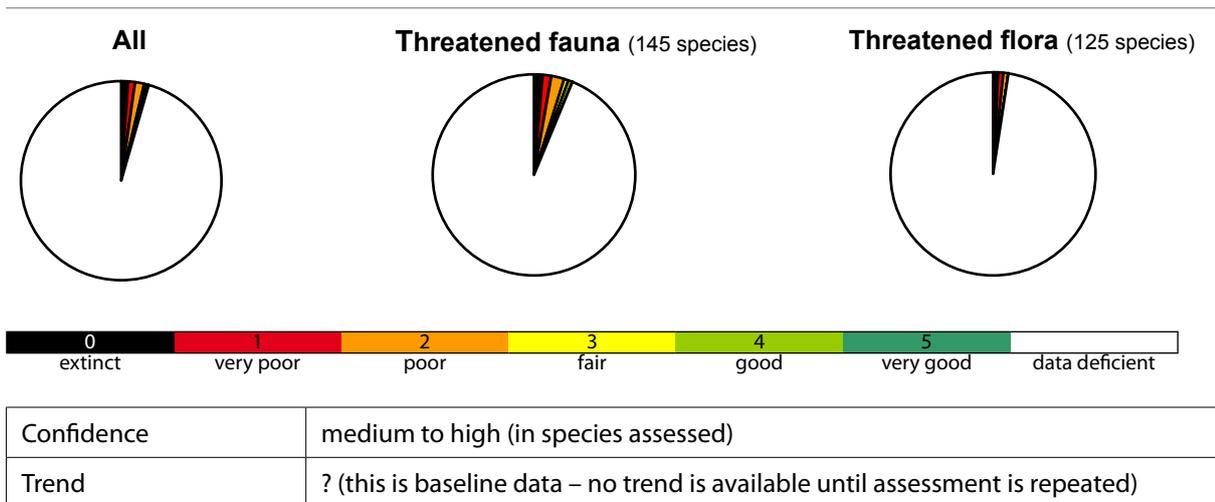
## Assessment

### 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 seven threatened fauna species could be assessed in the Southern Rivers region. Of these, only one scored good. 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 two threatened flora species could be assessed in the Southern Rivers region. One of these species scored poor and the other scored very poor. 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 Southern Rivers 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 nine of 267 threatened species within the region (excluding the three species presumed extinct), the index is inadequate without an increase in the number of threatened species being monitored.

Threatened species' recovery	2.0
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 (see the marine waters and ecosystems report).

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

## 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:
  - finalising the South Coast regional conservation plan, to accompany the South Coast settlement strategy
  - developing a Regional Biodiversity Management Plan, which will have a strong emphasis on the implementation of priority actions
  - preparing nominations for threatened ecological communities for the Scientific Committee and preparing identification guidelines (eg for the Brown Barrel ecological community). This work will help landholders implement native forestry on private land
  - preparing recovery plans; developing and implementing recovery programs for the endangered ecological communities (EECs) Box Gum Woodland, Natural Temperate Grassland and Floodplain, including mapping and the creation and coordination of Conservation Management Networks
  - developing and maintaining the Threatened Species Tool and associated data for property vegetation planning

- providing comprehensive advice to consent authorities regarding the protection of threatened biodiversity and its habitat, in both the development of local environmental plans and in assessing proposed developments
- implementing priority actions for a wide range of species considered to be at risk of extinction within the region, including the mountain pygmy possum, southern corroboree frog, smoky mouse, eastern bristlebird and tallong midge orchid
- education, through:
  - 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](http://www.dpi.nsw.gov.au/agriculture/profarm/courses)
- monitoring, evaluation and reporting, including:
  - completing a survey, classification and mapping of the vegetation of the Cessnock–Kurri region. This is an important reference source for planning
- 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.

## Regional level

At the regional level, the Southern Rivers Catchment Management Authority (CMA) is protecting threatened species through activities focused on fox control, and habitat restoration and monitoring. These include:

- works for threatened flora species including *Cynanchum elegans*, *Daphnandra sp.*, *Irenepharsis tryphurus*, *Pimelea spicata*, *Wilsonia rotundifolia*, and *Zieria granulata*
- some restoration works on almost all the EECs occurring in Southern Rivers CMA
- activities focused at species including the green and golden bell frog, brush-tailed phascogale, eastern freetail-bat, glossy black-cockatoo, greater broad-nosed bat, regent honeyeater, little whip snake, striped legless lizard, long footed potoroo, pied oystercatcher, sanderling, southern brown bandicoot, spotted tailed quoll, and grey nurse shark
- potoroo monitoring carried out at Wallaga Lake. Fox control and fire management plans are being developed as a result of this work. Further potoroo work is being carried out at Tanja, consisting of fox control and community awareness programs
- targeting shore birds at Tanja for fox control and the protection of nesting sites from people, high tides and dogs
- eastern bristlebird translocation from Barren Grounds to Cataract Dam with the objective of establishing another colony. The Southern Rivers CMA contributed to this project
- a fox control project being implemented to protect the brush-tailed rock-wallaby.

## 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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