

Australian Capital Territory

Nature Conservation (Spotted-tailed Quoll) Conservation Advice 2020

Notifiable instrument NI2020–788

made under the

Nature Conservation Act 2014, s 90C (Conservation advice)

1 Name of instrument

This instrument is the *Nature Conservation (Spotted-tailed Quoll) Conservation Advice 2020*.

2 Commencement

This instrument commences on the day after its notification day.

3 Conservation advice for Spotted-tailed Quoll

Schedule 1 sets out the conservation advice for Spotted-tailed Quoll (*Dasyurus maculatus maculatus*).

Arthur Georges
Chair, Scientific Committee
8 December 2020

Schedule 1

(see s 3)



ACT
Government

Environment, Planning and
Sustainable Development



ACT Scientific
Committee

CONSERVATION ADVICE

SPOTTED-TAILED QUOLL – *Dasyurus maculatus maculatus*

CONSERVATION STATUS

The Spotted-tailed Quoll sub-species *Dasyurus maculatus maculatus* (Kerr, 1792) is recognised as threatened in the following sources:

International	Near Threatened , (species), International Union for Conservation of Nature Red List
National	Endangered , (SE mainland population), <i>Environment Protection and Biodiversity Conservation Act 1999</i>
	Vulnerable , (Tasmania population), <i>Environment Protection and Biodiversity Conservation Act 1999</i>
	Vulnerable , The Action Plan for Australian Mammals 2012
ACT	Vulnerable , <i>Nature Conservation Act 2014</i>
NSW	Vulnerable , <i>Biodiversity Conservation Act 2016</i>
VIC	Threatened , <i>Flora and Fauna Guarantee Act 1988</i>
	Endangered , Advisory List of Threatened Vertebrate Fauna 2013
QLD	Vulnerable , <i>Nature Conservation Act 1992</i>
SA	Endangered , <i>National Parks and Wildlife Act 1972</i>
TAS	Rare , <i>Threatened Species Protection Act 1995</i>

ELIGIBILITY

The highest category for which the Spotted-tailed Quoll is eligible to be listed in the ACT Threatened Native Species List is Vulnerable under IUCN Criterion C — C2a(i). The recent 2019-20 bushfires in eastern and southern Australia may have accelerated any population decline, given that 29 per cent of the Spotted-tailed Quoll's national distribution range overlaps with the fire-affected extent and the Commonwealth Scientific Committee (TSSC) (2020) took a precautionary approach and recommended the species remain in the Endangered category until the results of the post-bushfire population monitoring are available.



Spotted-tailed Quoll (Don Fletcher – EPSDD)

The factors that make it eligible for Vulnerable include: the estimated total number of mature individuals of this species is limited, with an observed continuing decline and the geographic distribution is precarious for the survival of the species because the number of mature individuals in each population (nationally) is fewer than 1000 individuals (Threatened Species Scientific Committee (TSSC) 2020). The extent of potential mortality from the fire itself, as well as, potential mortality from post-fire conditions has led to the Spotted-tailed Quoll being identified as one of the priority species for urgent management intervention (DAWE 2020). It is possible that the population decline has exceeded 20% over the past 5 years, and the overall population size could be less than 2500 that would meet the requirements for the Endangered category when verified.

DESCRIPTION AND ECOLOGY

The Spotted-tailed Quoll (or Tiger Quoll) (SE mainland sub-species) is the largest of the living quolls and the largest marsupial carnivore on mainland Australia. The fur is sandy to rufous or dark brown with irregular white spots covering the back, sides and extending down the tail, and its stomach is cream to white (Belcher 2000). The large size and prominently spotted tail distinguish the Spotted-tailed Quoll from other quoll species (Edgar and Belcher 1995; Burnett et al. 2004).

Males can grow to 1.3 m in length (including tail) and weigh up to 7 kg (av. 2.6–4.6 kg), while females are smaller, to about 85 cm in length and 4 kg in weight (av. 1.5–2.2 kg) (Green and Scarborough 1990; Watt 1993; Jones 1997; Belcher 2003; Andrew 2005). Spotted-tailed quolls reach sexual maturity at one year of age, however some females do not breed until their second year and breeding occurs annually in winter with only one litter per female per year of an average size of five (Todd et al. 2007). Longevity is three years yielding a generation length of 2.5 years (Woinarski et al. 2014).

DISTRIBUTION AND HABITAT

The species occurs in a wide range of forested habitats throughout its range, including rainforests, wet sclerophyll forest, lowland forests, River Red Gum forests, dry 'rain-shadow' woodland, sub-alpine woodlands, coastal heathlands and inland riparian forests (Green and Scarborough 1990; Edgar and Belcher 1995; Mansergh 1995; Jones and Rose 1996). It appears to favour areas with a relatively complex understorey, often in association with complex rock formations, hollow-bearing trees, rocky escarpments and/or fallen logs. It has been recorded in south-eastern Queensland, eastern NSW, the ACT, Victoria, South Australia and Tasmania (although this population may be reclassified as a separate sub-species). Around 30 percent of the species' modelled likely and known distribution was within fire affected areas of the 2019-20 bushfire season (DAWE 2020).

While the Spotted-tailed Quoll is rarely seen in the ACT several of the sightings have been in suburban areas. There are 29 confirmed sightings and 32 records (hair, scats and DNA) in the ACT Wildlife Atlas (ACT Government 2018) since the 1950s. Between 2002 and 2006 scats were collected from Sentry Box Mountain, Gudgenby Valley, Orroral Valley and Scabby Range areas (ACT Government 2018). The limited confirmed records in the ACT likely reflect the elusive nature of the Spotted-tailed Quoll, rather than its actual distribution. They are solitary animals (Todd et al. 2007) that occur at low densities (Körtner et al. 2015) across a range of a few thousand hectares for individual males and a few hundred hectares for females (Andrew 2005; Claridge et al. 2005; Glen and Dickman 2006; Belcher and Darrant 2004). Since 2005, most of the sightings in the ACT have been of individual young males and it is probable that these are dispersing across the landscape from nearby areas in NSW rather than evidence of a local ACT population (ACT Government 2019).

THREATS

The National Recovery Plan for the Spotted-tailed Quoll (DoE 2016) and the Conservation Advice (C'wth) (TSSC 2020) lists the major threats to the species and those relevant to the ACT include:

- modification, fragmentation and loss of habitat
- road mortality
- competition and predation from introduced carnivores
- poison baiting of non-native predators
- too frequent bushfire and prescribed burning
- climate change increasing fire frequency and intensity
- purposeful killing

MAJOR CONSERVATION OBJECTIVES

The primary objective in the ACT is to maintain suitable habitat conditions to support the Spotted-tailed Quoll.

CONSERVATION PRIORITIES

The Action Plan for the Spotted-tailed Quoll (ACT Government 2019) identifies actions and the following main priorities to:

- maintain habitat complexity particularly close to suitable denning features such as complex rock outcrops
- maintain native forested links to protected areas containing Spotted-tailed Quolls to the east and south of the ACT
- manage potential threats
- monitor the occurrence of the species in the ACT.

OTHER RELEVANT ADVICE, PLANS OR PRESCRIPTIONS

- [ACT Action Plan Spotted-tailed Quoll](#) (ACT Government 2019)
- [Commonwealth Conservation Advice](#) – Spotted-tailed Quoll (TSSC 2020)
- [National Recovery Plan](#) – Spotted-tailed Quoll (DoE 2016)
- [Management Interventions for 119 Priority Animal Species](#) (DAWE 2020)
- The Action Plan for Australian Mammals (Woinarski et al. 2014)

LISTING BACKGROUND

The Spotted-tailed Quoll *Dasyurus maculatus* was initially listed as a Vulnerable species in the ACT on 5 September 2003 in accordance with section 38 of the *Nature Conservation Act 1980*. At that time, the Flora and Fauna Committee (now Scientific Committee) concluded that the assessment satisfied the following criterion:

- 2.1 Species is known or suspected to occur in the ACT region and is already recognised as vulnerable in an authoritative international or national listing.

At that time, the species was listed as Vulnerable in the IUCN Red List (2000) and by the Commonwealth under its *Environment Protection and Biodiversity Conservation Act 1999* (EPBC). The sub-species *Dasyurus maculatus maculatus* was (declared a species for the purposes of the EPBC Act and) listed under the Commonwealth EPBC Act however, only the species level was able to be listed in the ACT under the *Nature Conservation Act 1980* at that time.

There are two described sub-species of the Spotted-tailed Quoll: *Dasyurus maculatus gracilis*, confined to northern Queensland and *Dasyurus maculatus maculatus*, described here. There is also a distinct evolutionarily significant unit (ESU) restricted to Tasmania that has been proposed for reclassification as another sub-species (Firestone et al. 1999 and Firestone et al. 2000).

The initial Vulnerable EPBC listing included both the south-eastern mainland and Tasmanian populations. Later the populations were assessed as ‘two distinct evolutionary significant units’ (Firestone et al. 1999). Since the Tasmanian ESU has not yet received formal published taxonomic recognition (DoE 2016), the two southern ESUs are referred to as *D. m. maculatus* (South-eastern mainland population), and *D. m. maculatus* (Tasmanian population). The south-eastern mainland population was listed as Endangered and the Tasmanian population as Vulnerable under the EPBC Act in 2004. The south-eastern mainland population listing was reviewed and reassessed by the Commonwealth Threatened Species Scientific Committee (TSSC 2020) to take account of new information and was proposed to be listed as Vulnerable under EPBC Criterion 3 – C2a(i), however, in a precautionary approach, the Endangered listing will be retained until the results of the post-bushfire (2020) population monitoring are available.

REFERENCES

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FURTHER INFORMATION

Further information on the related Action Plan or other threatened species and ecological communities can be obtained from: Environment, Planning and Sustainable Development Directorate (EPSDD).

Phone: (02) 132281, EPSDD Website: <http://www.environment.act.gov.au/cpr>