

Approved Conservation Advice for *Sarcophilus harrisii* (Tasmanian Devil)

(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this species.

Description

Sarcophilus harrisii, Family Dasyuridae, also known as the Tasmanian Devil, is the world's largest surviving marsupial carnivore. The species has a black coat with variable patches of white on its chest, shoulder and rump, and a stocky frame with the fore legs longer than the hind legs. The Tasmanian Devil is a nocturnal hunter and scavenger (Pemberton and Renouf, 1993) and typically weighs between 8 - 14 kg (males) or 5 - 9 kg (females) (Jones, 2008). Hunting often involves covering large distances seeking carcasses and capturing prey. The main prey species are macropods, possums and wombats. Tasmanian Devils are also known to feed socially on larger carcasses (Jones, 2008).

Conservation Status

This species is eligible for listing as **endangered** under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, in 2009, the Minister considered the Threatened Species Scientific Committee's (TSSC) advice under section 189 of the EPBC Act and amended the list under section 184 to include the Tasmanian Devil. The TSSC determined that this species met criteria 1 and 5 of the eligibility criteria based on the severe decline in population numbers, principally as a result of the impact of Devil Facial Tumour Disease (DFTD) and modelling that indicates that there is a strong possibility that the Tasmanian Devil will be extinct within a timeframe of approximately 25-35 years, if trends in DFTD spread and population decline continue (TSSC, 2009). The species is also listed as endangered under the Tasmanian *Threatened Species Protection Act 1995*.

Distribution and Habitat

The Tasmanian Devil is endemic to Tasmania and is found throughout the island. It is not found on Tasmania's offshore islands. It is known from a wide range of habitats, from sea level to all but the highest peaks of Tasmania as well as in forestry plantations and pastures (Jones and Rose, 1996; Jones and Barmuta, 2000). Open forests and woodlands are preferred, while devils are less commonly found in tall or dense wet forests (Jones and Rose, 1996; Jones and Barmuta, 2000). The distribution of the species across Tasmania appears to be continuous, but population densities are lowest in the buttongrass plains of the south-west and highest in the dry and mixed sclerophyll forests and coastal heath of Tasmania's eastern half and north-west coast (Jones and Rose, 1996). As the species' distribution is considered continuous across mainland Tasmania, its estimated extent of occurrence and area of occupancy is approximately 64 000 km². In 2008, the best estimate of the total population size of mature individuals was in the range of 10 000 to 25 000 individuals (DPIW, unpublished data, 2008a). These figures are much lower than population estimates of the mid 1990s. These estimates indicated a total population size of mature individuals ranging from 65 000 to 75 000 individuals (Jones and Rose, 1996). These figures represent a decline in the Tasmanian Devil population of 64% since the mid 1990s (DPIW, unpublished data, 2008a). While local population declines of up to 95% have been observed no local extinctions have been identified to date. Consequently, the geographic distribution of the species is unchanged since DFTD was first identified in 1996.

This Conservation Advice was approved by the Minister on: 19 May 2009

This species occurs within the North, North West and South Natural Resource Management Regions of Tasmania.

The distribution of this species overlaps with the 'Eucalyptus ovata - Callitris oblonga Forest' and 'Alpine Sphagnum Bogs and Associated Fens' EPBC Act-listed threatened ecological communities.

Threats

The main identified threats to the Tasmanian Devil are DFTD and motor vehicles, while culling by humans is a lesser threat. DFTD is having a significant impact on the Tasmanian Devil with a reported decline in the species of 64% from the mid 1990's to early 2008. It is predicted that the species will have declined by a further 70% or more in the next 10 years with extensive local extinctions also occurring (McCallum, pers. comm., 2008). There is currently no effective treatment, vaccine or cure for DFTD. DFTD has now been identified across more than 60% of the species' extent of occurrence and local population declines of up to 95% have been observed (DPIW, unpublished data, 2008a). Current modelling indicates that there is a strong possibility that the Tasmanian Devil will be extinct within a timeframe of approximately 25-35 years, if trends in DFTD spread and population decline continue (McCallum et al., 2007).

As Tasmanian Devils favour food sources such as carcasses from roads they also expose themselves increasingly to being killed by motor vehicles (Jones and Barmuta, 2000). A recent three year study (2001–2004) of road-kill frequency on the main roads of Tasmania, estimated that 3392 Tasmanian Devils were being killed annually (Hobday and Minstrell, 2008). This suggests that between 3.8 and 5.7 percent of the Tasmanian Devil's total population is killed on roads each year.

Deliberate culling of Tasmanian Devils by humans is currently limited but can be locally intense (Mooney, pers. comm., 2008). The Tasmanian Devil has been protected in Tasmania since 2002 and is listed as an endangered species under the Tasmanian *Threatened Species Protection Act 1995*. While some culling is likely to persist, it is not considered a major threat to the species unless Tasmanian Devil populations become very small and fragmented (DPIW, unpublished data, 2008a).

In addition to the identified threats, the main potential threats to the Tasmanian Devil include foxes and habitat modification.

Foxes are a potential threat to Tasmanian Devils if fox numbers increase substantially, as foxes will compete with Tasmanian Devils for food resources, habitat and den sites.

If Tasmanian Devil densities become very low there is a risk that disturbance or destruction of maternal dens, as a result of land clearance, for example, for urban development, forestry and agriculture, could affect the species' breeding success and pose a significant threat to the Tasmanian Devil (Owen and Pemberton, 2005).

Research Priorities

Current research priorities are set out in the 'Save the Tasmanian Devil' Program and guided by the 'Save the Tasmanian Devil' Program Scientific Research Strategy 2007, the 'Save the Tasmanian Devil' Program Strategic Plan 2007 and the 'Save the Tasmanian Devil' Program Business Plan 2007 – 2008. For further information go to www.tassiedevil.com.au

Priority Actions

Priority actions are set out in the 'Save the Tasmanian Devil' Program and guided by the 'Save the Tasmanian Devil' Steering Committee and the 'Save the Tasmanian Devil' Program Strategic Plan 2007 and the 'Save the Tasmanian Devil' Program Business Plan 2007 – 2008.

A National Recovery Plan is being developed for the Tasmanian Devil. For further information go to www.tassiedevil.com.au

Existing Plans/Management Prescriptions that are Relevant to the Species

‘Save the Tasmanian Devil’ Program Strategic Plan 2007 (DPIW, 2007a).

‘Save the Tasmanian Devil’ Program Business Plan 2007 – 2008 (DPIW, 2007b).

‘Save the Tasmanian Devil’ Program: Insurance Population Strategy 2007 (DPIW, 2007c).

‘Save the Tasmanian Devil’ program Scientific Research Strategy (DPIW, 2007d).

Draft National Recovery Plan for the Tasmanian Devil (*Sarcophilus harrisii*) (DPIW, 2008b).

Risk categorisation guidelines for relocation of captive Tasmanian devils (DPIW, 2008c).

Biosecurity guidelines in management of Tasmanian devils in captivity and field trapping (DPIW, 2008d).

These prescriptions were current at the time of publishing; please refer to the relevant agency’s website for any updated versions.

Information Sources:

DPIW (Department of Primary Industries and Water) (2007a). ‘Save the Tasmanian Devil’ Program Strategic Plan.

Viewed: 31 October 2008

Available on the Internet at:

http://www.tassiedevil.com.au/docs/STTD_StrategicPlan.pdf

DPIW (Department of Primary Industries and Water) (2007b). ‘Save the Tasmanian Devil’ Program Business Plan 2007 - 2008.

Viewed: 7 November 2008

Available on the Internet at:

http://www.tassiedevil.com.au/docs/STTD_businessplan.pdf

DPIW (Department of Primary Industries and Water) (2007c). ‘Save the Tasmanian Devil’ Program: Insurance Population Strategy.

Viewed: 7 November 2008

Available on the Internet

at:<http://www.tassiedevil.com.au/docs/InsurancePolicyStrategy.pdf>

DPIW (Department of Primary Industries and Water) (2007d). ‘Save the Tasmanian Devil’ program Scientific Research Strategy.

Viewed: 7 November 2008

Available on the Internet at:

<http://www.tassiedevil.com.au>

DPIW (Department of Primary Industries and Water) (2008a). Species Information Sheet for the Tasmanian Devil. Unpublished report to the Department of Environment, Water, Heritage and the Arts. Hobart, Tasmania.

DPIW (2008b). Draft National Recovery Plan for the Tasmanian Devil (*Sarcophilus harrisii*) Unpublished report to the Department of Environment, Water, Heritage and the Arts. Hobart, Tasmania.

DPIW (Department of Primary Industries and Water) (2008c). Risk categorisation guidelines for relocation of captive Tasmanian devils.

Viewed: 7 November 2008
Available on the Internet at:
<http://www.tassiedevil.com.au>

DPIW (Department of Primary Industries and Water) (2008d). Biosecurity guidelines in management of Tasmanian devils in captivity and field trapping.

Viewed: 7 November 2008
Available on the Internet at:
<http://www.tassiedevil.com.au>

Hobday AJ and Minstrell ML (2008). Distribution and abundance of roadkill on Tasmanian highways: human management options. *Wildlife Research* 35: 712-726.

Jones ME (2008). Tasmanian Devil. In 'The Mammals of Australia' (eds. S Van Dyck and R Strahan). Reed New Holland. Chatswood Australia.

Jones ME and Barmuta LA (2000). Niche differentiation among sympatric Australian dasyurid carnivores. *Journal of Mammalogy* 81: 434-447.

Jones ME and Rose RK (1996). Preliminary assessment of distribution and habitat associations of the spotted-tailed quoll (*Dasyurus maculatus maculatus*) and eastern quoll (*D. viverrinus*) in Tasmania to determine conservation and reservation status. Report to the Tasmanian Regional Forest Agreement Environment and Heritage Technical Committee. Tasmanian Public Land Use Commission. Hobart, Tasmania.

McCallum H (2008). Personal communication by telephone, 11 November 2008, University of Tasmania. Hobart, Tasmania.

McCallum H, Tompkins D, Jones M, Lachish S, Marvanek S, Lazenby B, Hocking G, Wiersma J and Hawkins C (2007). Distribution and Impacts of Tasmanian Devil Facial Tumor Disease. *EcoHealth* 4: 318-325.

Mooney N (2008). Personal communication by telephone, 3 November 2008, Department of Primary Industries and Water. Hobart, Tasmania.

Owen D and Pemberton D (2005). The Tasmanian devil: a unique and threatened animal. Allen and Unwin. Australia.

Pemberton D and Renouf D (1993). A field study of communication and social behavior of the Tasmanian devil at feeding sites. *Australian Journal of Zoology* 41: 507-526.

Threatened Species Scientific Committee (TSSC) (2009). Listing advice for *Sarcophilus harrisii* (Tasmanian Devil).