



## Consultation Document on Listing Eligibility and Conservation Actions

### *Notamacropus eugenii eugenii* (Tammar Wallaby (South Australia))

You are invited to provide your views and supporting reasons related to:

- 1) the eligibility of *Notamacropus eugenii eugenii* (Tammar Wallaby (South Australia)) for inclusion on the EPBC Act threatened species list; and
- 2) the necessary conservation actions for the above subspecies.

Evidence provided by experts, stakeholders and the general public are welcome. Responses can be provided by any interested person.

Anyone may nominate a native species, ecological community or threatening process for listing under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or for a transfer of an item already on the list to a new listing category. The Threatened Species Scientific Committee (the Committee) undertakes the assessment of species to determine eligibility for inclusion in the list of threatened species and provides its recommendation to the Australian Government Minister for the Environment and Energy.

Responses are to be provided in writing either by email to:  
[species.consultation@environment.gov.au](mailto:species.consultation@environment.gov.au)

or by mail to:

The Director  
Marine and Freshwater Species Conservation Section  
Wildlife, Heritage and Marine Division  
Department of the Environment and Energy  
PO Box 787  
Canberra ACT 2601

**Responses are required to be submitted by 13 July 2018.**

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## General background information about listing threatened species

The Australian Government helps protect species at risk of extinction by listing them as threatened under Part 13 of the EPBC Act. Once listed under the EPBC Act, the species becomes a Matter of National Environmental Significance (MNES) and must be protected from significant impacts through the assessment and approval provisions of the EPBC Act. More information about threatened species is available on the department's website at: <http://www.environment.gov.au/biodiversity/threatened/index.html>.

Public nominations to list threatened species under the EPBC Act are received annually by the department. In order to determine if a species is eligible for listing as threatened under the EPBC Act, the Threatened Species Scientific Committee (the Committee) undertakes a rigorous scientific assessment of its status to determine if the species is eligible for listing against a set of criteria. These criteria are available on the Department's website at: <http://www.environment.gov.au/biodiversity/threatened/pubs/guidelines-species.pdf>.

As part of the assessment process, the Committee consults with the public and stakeholders to obtain specific details about the species, as well as advice on what conservation actions might be appropriate. Information provided through the consultation process is considered by the Committee in its assessment. The Committee provides its advice on the assessment (together with comments received) to the Minister regarding the eligibility of the species for listing under a particular category and what conservation actions might be appropriate. The Minister decides to add, or not to add, the species to the list of threatened species under the EPBC Act. More detailed information about the listing process is at: <http://www.environment.gov.au/biodiversity/threatened/nominations.html>.

To promote the recovery of listed threatened species and ecological communities, conservation advices and where required, recovery plans are made or adopted in accordance with Part 13 of the EPBC Act. Conservation advices provide guidance at the time of listing on known threats and priority recovery actions that can be undertaken at a local and regional level. Recovery plans describe key threats and identify specific recovery actions that can be undertaken to enable recovery activities to occur within a planned and logical national framework. Information about recovery plans is available on the department's website at: <http://www.environment.gov.au/biodiversity/threatened/recovery.html>.

## Privacy notice

The Department will collect, use, store and disclose the personal information you provide in a manner consistent with the Department's obligations under the Privacy Act 1988 (Cth) and the Department's Privacy Policy.

Any personal information that you provide within, or in addition to, your comments in the threatened species assessment process may be used by the Department for the purposes of its functions relating to threatened species assessments, including contacting you if we have any questions about your comments in the future.

Further, the Commonwealth, State and Territory governments have agreed to share threatened species assessment documentation (including comments) to ensure that all States and Territories have access to the same documentation when making a decision on the status of a potentially threatened species. This is also known as the '[common assessment method](#)'. As a result, any personal information that you have provided in connection with your comments may be shared between Commonwealth, State or Territory government entities to assist with their assessment processes.

The Department's Privacy Policy contains details about how respondents may access and make corrections to personal information that the Department holds about the respondent, how respondents may make a complaint about a breach of an Australian Privacy Principle, and how the Department will deal with that complaint. A copy of the Department's Privacy Policy is available at: <http://environment.gov.au/privacy-policy>.

## **Information about this consultation process**

Responses to this consultation can be provided electronically or in hard copy to the contact addresses provided on Page 1. All responses received will be provided in full to the Committee and then to the Australian Government Minister for the Environment.

In providing comments, please provide references to published data where possible. Should the Committee use the information you provide in formulating its advice, the information will be attributed to you and referenced as a 'personal communication' unless you provide references or otherwise attribute this information (please specify if your organisation requires that this information is attributed to your organisation instead of yourself). The final advice by the Committee will be published on the department's website following the listing decision by the Minister.

Information provided through consultation may be subject to freedom of information legislation and court processes. It is also important to note that under the EPBC Act, the deliberations and recommendations of the Committee are confidential until the Minister has made a final decision on the nomination, unless otherwise determined by the Minister.

# *Notamacropus eugenii eugenii*

Tammar Wallaby (South Australia)

## **Taxonomy**

Historically, three subspecies of *Macropus eugenii* (Tammar Wallaby) were recognised based on morphometric research (Poole et al. 1991): *M. eugenii eugenii* (mainland South Australia), *M. eugenii decres* (Kangaroo Island) and *M. eugenii derbianus* (Western Australia). The mainland South Australian subspecies became locally extinct in the 1930s, but was re-introduced to Innes National Park (SA) from a feral population in New Zealand derived from South Australian mainland stock (Woinarski et al. 2014).

In 2015, the genus of the Tammar Wallaby was reverted to *Notamacropus* (Jackson & Groves 2015). Recent genetic research determined that the Kangaroo Island and South Australian mainland subpopulations are the same subspecies, and *Notamacropus eugenii eugenii* has now been synonymised with *N. e. decres* (Eldridge et al. 2017).

The Tammar Wallaby (South Australia) is now conventionally known as *Notamacropus eugenii eugenii* Desmarest, 1817.

## **Species/Subspecies Information**

### **Description**

The Tammar Wallaby (*Notamacropus eugenii*) is the smallest species of wallaby, growing to 68 cm in length (Labiano-Abello 1999). It has dark grey-brown fur flecked with light grey above, becoming rufous on the sides of the body and on the limbs (especially in males), and is pale grey-buff below (Hinds 2008). It has a white stripe on its cheek and a dark stripe down the forehead (Hinds 2008). The South Australian subspecies differs from the Western Australian subspecies in having a finer build and a short, sleek coat (Cronin 1991; Hinds 2008).

Males and females of the species are about 45 cm in height (Labiano-Abello 1999), but males are larger in other respects. On Kangaroo Island, males have a body length of 59–68 cm and females 52–63 cm, with males weighing 6–10 kg and females weighing 4–6 kg (Hinds 2008). Individuals from the Western Australian subspecies are smaller, with males weighing an average of 4.6 kg and females an average of 3.7 kg (Hinds 2008).

Other common names include Dama wallaby and Dama pademelon (Hinds 2008).

### **Distribution**

The Tammar Wallaby (South Australia) (*N. e. eugenii*) formerly occurred on Yorke Peninsula, Eyre Peninsula, the Mid North and Adelaide Plains, the Fleurieu Peninsula east to the Murray River (DEH 2004) and Saint Peter, Saint Francis (skeletal remains only), Flinders and Thistle Islands (Robinson et al. 1996), and Kangaroo Island. It became locally extinct on Flinders Island between 1968 and 1974, apparently due to a combination of land clearance and predation by feral cats, possibly exacerbated by grazing by sheep, having been rare for some time before extinction (Robinson et al. 1996) due to hunting and trapping. It also became locally extinct on Thistle Island. On the mainland, the subspecies became extinct by the 1930s, with extinction presumed to have been due to predation by the introduced fox *Vulpes vulpes*, hunting pressure (e.g. *The Register*, Adelaide, 23 March 1912: 12) and land clearance.

However, Tammar Wallabies were taken to New Zealand by Sir George Grey (Governor of South Australia 1841–1845; Governor of New Zealand 1845–1853 and 1861–1868) and released on Kawau Island. Following confirmation that the feral population on Kawau Island were genetically highly likely to be derived from the South Australian mainland (Taylor & Cooper 1999), 85 animals were repatriated to Australia in 2003 for reintroduction. Following the quarantine period and a breeding program, a four-stage reintroduction program saw 125

wallabies released into Innes National Park on Yorke Peninsula over 2004–2008 (Sharp et al. 2010). With an area of 92 km<sup>2</sup>, Innes National Park is the largest area of native vegetation remaining on Yorke Peninsula, and the current mainland range of the Tammar Wallaby (South Australia).

The Tammar Wallaby (South Australia) has been introduced from Kangaroo Island to other offshore islands in South Australia: Boston Island (1971, 9.7 km<sup>2</sup>), Granite Island (1970s, 0.32 km<sup>2</sup>, removed 1991), Greenly Island (c. 1905, 1.4 km<sup>2</sup>), Althorpe Island (unknown date, 1.6 km<sup>2</sup>, locally extinct) and Wardang Island (unknown date, 20 km<sup>2</sup>, source uncertain, still present) (Abbott & Burbidge 1995; Robinson et al. 1996; DEH 2009; P. Copley pers. comm., cited in Woinarski et al. 2014).

### **Cultural significance**

The Tammar Wallaby (South Australia) played a significant role in Aboriginal culture, providing a source of food and clothing and featuring in Narunnga stories (i.e. at Mildidjari, near Cape Spencer) (Tindale 1936).

### **Relevant Biology/Ecology**

The Tammar Wallaby typically inhabits coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland (Hinds 2008). During the day individuals rest in thick cover, venture into the open to forage after dark, and return to cover before dawn (Hinds 2008).

On Kangaroo Island, the Tammar Wallaby (South Australia) uses dense vegetation for shelter and open grassy areas (including improved pastures) for feeding. Each individual has a defined home range, which overlaps with those of other animals (Inns 1980; Hinds 2008). Inns (1980) found the home range size to vary from a mean of 42.4 ha (+/- 17.6) in summer, and 15.9 ha (+/- 8.1) in winter. This study site included about 50 hectares of mostly cleared land with grass cover, surrounded by forest and woodland with a relatively dense understorey. Radio-tracking data suggested a population density of about one animal per 2–3 hectares (0.46/ha) in near-optimum habitats (Inns 1980). The Tammar Wallaby occurs in groups called "mobs", which have a territory that may extend to 100 hectares. The territory may be partly shared with other mobs in the peripheral areas. Mobs are comprised of all ages and sexes, and usually have up to 50 members in a hierarchical dominance structure (Labiano-Abello 1999).

The ecology of the mainland subpopulation prior to extinction in Australia is unknown, but was reported from dense scrub on Yorke and Eyre Peninsulas (Copley et al. 1984; Saunders & St John 1986). The reintroduced population on Innes National Park utilise the edges of modified grasslands for nocturnal foraging, retreating to closed mallee and Melaleuca woodlands during the day to rest. Home range size of the Innes National Park population varies throughout the year, ranging from 18 ha to 28 ha (Kemp 2010).

Dietary studies have not been conducted on the Tammar Wallaby (South Australia). However, studies on the Western Australian subspecies indicate that the Tammar Wallaby browses a range of grasses, herbs/forbs, shrubs and small trees, including species with tough leaf or stem spines. They consume seedlings of many perennial plant species, and if at very high densities can prevent recruitment of many species (Shepherd et al. 1997). The species can survive without permanent freshwater, and animals in one Western Australian island population are known to drink seawater (DEH 2002; Main & Yadav 1971).

The breeding cycle is well known only for the Kangaroo Island population. Studies on this population have shown that the Tammar Wallaby has the longest period of embryonic diapause of any mammal, highly synchronised seasonal breeding, and prolonged and sophisticated lactation within a well-defined pouch (Renfree et al. 2011). Most females deliver a single young in late January to early February (Hinds 2008). The joey remains in the pouch for 8 to 9 months until it is physically fully developed, with weaning occurring at about 10 to 11 months (Labiano-Abello 1999). The mother mates within a few hours after birth, but development of the resulting

embryo is delayed during an 11 month period of suspended animation (embryonic diapause) (Renfree & Shaw 2000, cited in Renfree et al. 2011). Young females become sexually mature at about nine months while they are still suckling, and may mate at this time but the embryo also undergoes diapause (Hinds 2008). Typically all diapausing embryos are reactivated soon after the summer solstice (December 22), and young are born 40 days later (Hinds 2008). Males reach sexual maturity at two years (Labiano-Abello 1999).

The rate of reproduction is high, with more than 90 percent of all females carrying a pouch-young by the end of the breeding season (late May-June). However, in some years many pouch-young are lost, especially by one-year-old females. The mortality rate is high among juveniles during their first summer, and may reach 40 percent. In long, hot and dry summers, food becomes limited and of poor quality, and many adults die at the onset of cold wet weather (Hinds 2008).

On Kangaroo Island, males may live to at least 11 years and females to 14 years of age (Hinds 2008). Generation length is estimated to be 6 years (Woinarski et al. 2014).

### Threats

On the mainland the Tammar Wallaby (South Australia) is threatened by predation by foxes and feral cats, and major fires. Threats to the Kangaroo Island subpopulation are relatively minor.

**Table 1:** Threats impacting the Tammar Wallaby (South Australia) in approximate order of severity of risk, based on available evidence

Number	Threat factor	Threat type and status	Evidence base
1.0	Invasive species		
1.1	Predation by foxes	known current (mainland range)	Foxes are implicated in the extinction of this subspecies on the mainland (DEH 2004), and implicated in the decline and extinction of many medium-sized mammals (e.g. Kinnear et al. 2002).
1.2	Predation by feral cats	known current	Feral cats have not significantly impacted the Kangaroo Island subpopulation.
2.0	Roads		
2.1	Road mortality	known current (Kangaroo island)	Many individuals are killed by vehicles on Kangaroo Island. However, these probably represent a small proportion of the subpopulation.
3.0	Fire		
3.1	Major fires	known potential	Fire is a minor threat on Kangaroo island. However, the small area of occupancy of Innes National Park places this population at risk from major fires that could directly or indirectly (via loss of cover and food) affect the survival of individuals.

## Assessment of available information in relation to the EPBC Act Criteria and Regulations

<b>Criterion 1. Population size reduction (reduction in total numbers)</b>			
Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4			
	<b>Critically Endangered Very severe reduction</b>	<b>Endangered Severe reduction</b>	<b>Vulnerable Substantial reduction</b>
<b>A1</b>	<b>≥ 90%</b>	<b>≥ 70%</b>	<b>≥ 50%</b>
<b>A2, A3, A4</b>	<b>≥ 80%</b>	<b>≥ 50%</b>	<b>≥ 30%</b>
A1	Population reduction observed, estimated, inferred or suspected in the past and the causes of the reduction are clearly reversible AND understood AND ceased.		(a) direct observation [ <i>except A3</i> ]
A2	Population reduction observed, estimated, inferred or suspected in the past where the causes of the reduction may not have ceased OR may not be understood OR may not be reversible.		(b) an index of abundance appropriate to the taxon
A3	Population reduction, projected or suspected to be met in the future (up to a maximum of 100 years) [(a) <i>cannot be used for A3</i> ]		(c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
A4	An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.		(d) actual or potential levels of exploitation
	<i>based on any of the following</i>		(e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites

### **Evidence:**

There are no data available on population numbers and trends for the Tammar Wallaby (South Australia) on Kangaroo Island. However, anecdotal observations indicate that while there has been some seasonal variation, the subspecies has continued to be widespread and abundant on the island over recent decades (DEWNR 2018. pers comm 20 March). The total population on Kangaroo Island is likely to be well in excess of 100 000 individuals (A. Maguire 2018. pers comm 20 March).

The subspecies is extant on Wardang Island, Boston Island and Greenly Island. However, no information is available on population numbers and trends at these locations (DEWNR 2018. pers comm 20 March, 16 May).

The Innes National Park population had 100–120 individuals in 2012 (ABC News 2012), a natural increase from an estimated 49 individuals detected following the re-introduction program (Sharp et al. 2010). In 2017, the population was considered likely to be stable and estimated to have approximately 80–120 individuals (A. Sharp 2018. pers comm 20 March). In recent years, the wallabies have dispersed into other areas of Innes National Park, e.g. Stenhouse Bay (A. Sharp 2018. pers comm 20 March).

The data presented above appear to demonstrate the subspecies is not eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

<b>Criterion 2. Geographic distribution as indicators for either extent of occurrence AND/OR area of occupancy</b>			
	<b>Critically Endangered Very restricted</b>	<b>Endangered Restricted</b>	<b>Vulnerable Limited</b>
B1. Extent of occurrence (EOO)	< 100 km <sup>2</sup>	< 5,000 km <sup>2</sup>	< 20,000 km <sup>2</sup>
B2. Area of occupancy (AOO)	< 10 km <sup>2</sup>	< 500 km <sup>2</sup>	< 2,000 km <sup>2</sup>
AND at least 2 of the following 3 conditions indicating distribution is precarious for survival:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

### Evidence:

The Tammar Wallaby (South Australia) is ubiquitous across Kangaroo Island (DEWNR 2018. pers comm 20 March); therefore the area of occupancy is greater than the area of the island, which is 4405 km<sup>2</sup>. The extent of occurrence is estimated to be greater than 30 000 km<sup>2</sup> (DEWNR 2018. pers comm 20 March).

The subspecies occurs at five locations: Kangaroo Island, Greenly Island, Wardang Island, Boston Island and Innes National Park.

The data presented above appear to demonstrate the subspecies is not eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

<b>Criterion 3. Population size and decline</b>			
	<b>Critically Endangered Very low</b>	<b>Endangered Low</b>	<b>Vulnerable Limited</b>
Estimated number of mature individuals	< 250	< 2,500	< 10,000
AND either (C1) or (C2) is true			
C1 An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future)	<b>Very high rate 25% in 3 years or 1 generation (whichever is longer)</b>	<b>High rate 20% in 5 years or 2 generation (whichever is longer)</b>	<b>Substantial rate 10% in 10 years or 3 generations (whichever is longer)</b>
C2 An observed, estimated, projected or inferred continuing decline AND its geographic distribution is precarious for its survival based on at least 1 of the following 3 conditions:			
(a) (i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
(a) (ii) % of mature individuals in one subpopulation =	90 – 100%	95 – 100%	100%
(b) Extreme fluctuations in the number of mature individuals			

**Evidence:**

On Kangaroo Island, the Tammar Wallaby (South Australia) is abundant and considered an agricultural pest by some (Robinson et al. 1996). The total population on Kangaroo Island is likely to be well in excess of 100 000 individuals (A. Maguire 2018. pers comm 20 March). Wright & Stott (1999) estimated the population size on Kangaroo Island to be 116 000 – 240 000 individuals, based on landholder surveys; this figure is likely to be an underestimate as only 25 percent of surveys were returned. Estimates for the mainland subpopulation in 2017 were 80–120 individuals resident within Innes National Park (A. Sharp 2018. pers comm 20 March).

The number of mature individuals in the total population is estimated to be greater than 10 000, with no evidence of a continuing decline.

The data presented above appear to demonstrate the species is not eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the species’ status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

<b>Criterion 4. Number of mature individuals</b>			
	<b>Critically Endangered Extremely low</b>	<b>Endangered Very Low</b>	<b>Vulnerable Low (Medium-term future)<sup>1</sup></b>
Number of mature individuals	<b>&lt; 50</b>	<b>&lt; 250</b>	<b>&lt; 1,000</b>
D2 <sup>1</sup> Only applies to the Vulnerable category Restricted area of occupancy or number of locations with a plausible future threat that could drive the species to critically endangered or Extinct in a very short time	-	-	<b>D2.</b> Typically: area of occupancy < 20 km <sup>2</sup> or number of locations ≤ 5

<sup>1</sup> The IUCN Red List Criterion D allows for species to be listed as Vulnerable under Criterion D2. The corresponding Criterion 4 in the EPBC Regulations does not currently include the provision for listing a species under D2. As such, a species cannot currently be listed under the EPBC Act under Criterion D2 only. However, assessments that demonstrate eligibility for listing under other criteria may include information relevant to D2. This information will not be considered by the Committee in making its assessment of the species’ eligibility for listing under the EPBC Act, but may assist other jurisdictions to adopt the assessment outcome under the [common assessment method](#).

**Evidence:**

The number of mature individuals in the total population is estimated to be greater than 10 000 (see Criterion 3). The Tammar Wallaby (South Australia) has an area of occupancy of greater than 20 km<sup>2</sup> and occurs at five locations (see Criterion 2). The number of locations satisfies the quantitative threshold for listing as Vulnerable under IUCN Criterion D2. However, there is no plausible future threat that could drive the subspecies to critically endangered or extinct in a very short time.

The data presented above appear to demonstrate that the subspecies is not eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies’ status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

<b>Criterion 5. Quantitative Analysis</b>			
	<b>Critically Endangered Immediate future</b>	<b>Endangered Near future</b>	<b>Vulnerable Medium-term future</b>
Indicating the probability of extinction in the wild to be:	<b>≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)</b>	<b>≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)</b>	<b>≥ 10% in 100 years</b>

### **Evidence:**

A population viability analysis appears not to have been undertaken, there are insufficient data to demonstrate if the subspecies is eligible for listing under this criterion. However, the purpose of this consultation document is to elicit additional information to better understand the subspecies' status. This conclusion should therefore be considered to be tentative at this stage, as it may be changed as a result of responses to this consultation process.

### **Consideration for delisting**

The Tammar Wallaby (South Australia) was listed as Extinct under the predecessor to the EPBC Act (the *Endangered Species Protection Act 1992*), with the listing transferred to the EPBC Act in July 2000. It is no longer eligible to be listed as Extinct, following the successful translocation of individuals from New Zealand (determined to be derived from SA mainland stock) to the mainland in the early 2000s.

The assessment presented in this Consultation Document suggests that the subspecies may no longer be eligible to be listed under the EPBC Act, as it may not satisfy the listing criteria in any category. The proposed delisting is due to a taxonomic revision, and is not expected to have any negative consequences for the subspecies. The subpopulations on Kangaroo Island and Innes National Park are stable.

Note: if the subspecies is found to be ineligible for listing as a threatened species under the EPBC Act, the following section of this consultation document will not be relevant.

### **Conservation Actions**

#### **Recovery Plan**

There is no recovery plan in place for the Tammar Wallaby (South Australia). However, the translocation proposal (DEH 2004) includes monitoring, management and research actions for translocated populations, and is effectively a management plan for the mainland subpopulation.

A decision about whether there should be a recovery plan for this subspecies has not yet been determined. The purpose of this consultation document is to elicit additional information to help inform this decision.

#### **Primary Conservation Actions**

1. Manage the reintroduced Tammar Wallaby (South Australia) mainland subpopulation so that it increases its range and abundance within Innes National Park.
2. Reintroduce mainland animals to other areas within the original range, including islands.

#### **Conservation and Management Priorities**

The South Australian Department for Environment and Heritage manages Innes National Park and the reintroduced Tammar Wallaby subpopulation. The whole park is fox baited monthly.

- Invasive species

- Maintain fox baiting at Innes National Park.
- Maintain biosecurity measures for Kangaroo Island, especially to prevent the establishment of foxes.
- Roads
  - Identify areas on Kangaroo Island with a high incidence of Tammar Wallabies killed on roads, and implement appropriate measures to reduce roadkill.
- Fire
  - Implement fire regimes that reduce the likelihood of major fires.
- Breeding and other ex situ recovery actions
  - Maintain captive colonies as insurance against loss of the wild mainland subpopulation.
  - Translocate individuals to additional sites, including islands.

### **Stakeholder Engagement**

- Conduct awareness raising programs and engage the community in any proposed reintroduction area.

### **Survey and Monitoring priorities**

- Establish a monitoring program on Wardang Island, Boston Island and Greenly Island.
- Develop an effective monitoring protocol for the small subpopulation at Innes National Park.

### **Information and Research priorities**

- Assess the effectiveness of fox control at Innes National Park.

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## Consultation questions

### PART 1 – INFORMATION TO AID LISTING ASSESSMENT

1. Do you have any additional information in the **ecology or biology** of the species?
2. Can you provide any additional information or estimates on **longevity, average life span or generation length** for the species?
3. Do you have additional information to support an **estimate of the current population size** of mature adults of the species (national extent)?
4. Do you have additional information on **population trends** over 3 generations, or an historic population size for the species (national extent)?
5. Do you have additional information on **current range** (national extent) or **location of populations** for the species?
6. Can you provide additional information on any **change in range** or **location of populations**, or an **historic range** (national extent)?

### PART 2 – INFORMATION FOR CONSERVATION ADVICE ON THREATS AND CONSERVATION ACTIONS

7. Do you further information on the historic, current or potential **threats** facing the species?
8. Do you have further information on current or potential **management actions** to support protection and recovery of the species?
9. Do you have further information on current or potential **monitoring or research activities** for the species?
10. Are you aware of **other knowledge** (e.g. traditional ecological knowledge) that may help better understand the threats and management actions to aid recovery of the species?
11. Are you aware of any **cultural importance or use** that the species has?
12. What **individuals or organisations** are currently, or potentially could be, involved in management and recovery of the species?

### PART 3 – ANY OTHER INFORMATION

13. Do you have comments on any other matters relevant to the assessment of this species?