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

March 11, 2015

Re: Comments on Listing Eligibility and Conservation Actions for *Isoodon obesulus obesulus* Southern brown bandicoot (south-eastern)

Dear Sir/Madam,

The Nature Conservation Society of South Australia (NCSSA) welcomes the opportunity to provide comments on the Listing Eligibility and Conservation Actions for *Isoodon obesulus obesulus* Southern brown bandicoot (south-eastern) and appreciates the extension of time granted to enable us to do this. As South Australia's primary nature conservation advocacy organisation, the NCSSA has an active interest in the protection and conservation of South Australia's natural resources with particular attention being paid to nationally and state listed threatened plants, animals and ecological communities and management of protected areas.

Since 1962, NCSSA has played a key role in establishing and expanding the reserve system in South Australia by promoting the protection of key biodiversity assets through the dedication of reserves and by undertaking ecological research to inform their management. Our current and past activities also address the significant need for ongoing management and monitoring both within parks and across the broader landscape to provide long-term conservation of biodiversity.

Please refer to the following pages for our comments on the EPBC Act listing eligibility and associated conservation actions. If you would like to clarify or discuss any of the points raised please contact me on (08) 7127 4633 or via email at nicki.depreu@ncssa.asn.au

Yours sincerely,

Nicki de Preu

Conservation Ecologist

Our comments on the questions in the consultation document for *Isoodon obesulus obesulus* Southern brown bandicoot (south-eastern) are as follows:

1. *Do you agree with the current taxonomic position for this taxon (as identified in the draft conservation advice)?*

We do not agree with the current taxonomic position for this taxon as identified in the draft conservation advice. Recent investigations and genetic analyses undertaken by researchers from Adelaide University, South Australian Museum and Charles Darwin University indicate that the current taxonomy and distribution of *I. o. obesulus* is incorrect. This research has obtained strong evidence from nuclear and mitochondrial (mtDNA) genetic data that the Lofty Ranges and Kangaroo Island populations are genetically distinctive from *I. o. obesulus*, and together with the Franklin Island and St Francis Island populations, are more closely related to *I. obesulus fusciventer* from Western Australia (Li, 2014; Li et al. 2014a). This data indicates that the distribution of *I. o. obesulus* is restricted to NSW, Victoria and the south-east of SA (Mt Burr Range) and that the proposal for delisting of this taxon therefore should only consider the status of populations within this range.

2. *Can you provide any additional references, information or estimates on longevity, age of maturity, average life span and generation length?*

A recent study of population demographics of *I. o. obesulus* in the Mount Lofty Ranges (Packer 2013) found that breeding success within native vegetation remnants was lower than reported in the draft conservation advice. The draft conservation advice should also acknowledge that despite the high fecundity rates of this species relatively low juvenile survival rates have been recorded at some sites with mortality rates of 50% recorded between the ages of birth and independence (Paull, 1992).

3. *Has the survey effort for this species been adequate to determine its national distribution and adult population size?*

We do not consider the current survey effort for this species has been adequate to determine its distribution and adult population size in South Australia as it is based on incorrect taxonomy (see response to Question 1 above). We strongly recommend that further rigorously designed surveys are conducted to determine adult population size that take into account variations in density due to resource availability (Packer 2013) and patchy distribution across the fragmented landscape of the Mount Lofty Ranges and the South East of South Australia (Li et al. 2014a; Li et al. 2014b).

4. *Do you accept the estimate provided in the nomination for the current population size of the species?*

We do not consider the population estimate in the nomination to be accurate as it is based on the inclusion of populations from Tasmania, the Lofty Ranges, Kangaroo Island, Franklin and St Francis islands, as representing the taxon *I. o. obesulus*, and therefore the actual estimate is likely to be substantially less than this. We strongly recommend that further survey effort is required to determine accurate population estimates within acceptable confidence levels.

5. *For any population with which you are familiar, do you agree with the population estimate provided? If not, are you able to provide a plausible estimate based on your own knowledge?*

We have not conducted targeted surveys for this species so cannot offer any additional information about population estimates.

6. *Can you provide any additional data, not contained in the current nomination, on declines in population numbers over the past or next 10 years or 3 generations, whichever is the longer?*

No.

7. *Is the distribution as described in the nomination valid? Can you provide an estimate of the current geographic distribution (extent of occurrence or area of occupancy in km²) of this species?*

Recent data collected by researchers from the University of Adelaide indicate that the range of *I. o. obesulus* is much more restricted than previously proposed which directly influences population estimates provided in the draft conservation advice (Li et al. 2014a; Li et al. 2014b; Packer 2013).

8. *Has this geographic distribution declined and if so by how much and over what period of time?*

We have been advised that recent DEWNR surveys indicate a decline in bandicoot activity in some reserves within the Adelaide Mount Lofty Region (AMLR) over the past five years. Furthermore, monitoring to confirm bandicoot presence in these reserves during 2014-2015 did not detect any activity.

9. *Do you agree that the species is ineligible for inclusion on the threatened species list?*

We do not agree that the species is ineligible for inclusion on the threatened species list based on the data presented in the draft conservation advice. Our justifications for this are incorrect taxonomic designations of the populations, observed continuing decline in area of occupancy and extent and quality of habitat and ongoing impacts of key threatening processes affecting population numbers.

10. *Do you agree that the threats listed are correct and that their effects on the species are significant?*

We consider the threats listed for this species (Page 4-5 of the Consultation document) to be mostly accurate and that without some form of intervention their effects are highly likely to be significant resulting in further decline of localised populations and subpopulations. We do not agree with the 'Minor' consequence rating for the impact of inappropriate fire regimes given the increasing pressure to undertake prescribed burning programs across 5% of high risk land in the Mount Lofty Ranges (DEWNR, 2014) and effect that such programs and escaped prescribed burns are having on remnant native vegetation that includes southern brown bandicoot habitat. In addition, ongoing loss of habitat due to clearance and degradation is impacting on the Mount Lofty Ranges population (Packer 2013). Threats within the AMLR are also exacerbated by their peri-urban distribution and by conflicts between biodiversity conservation and human land-use requirements (Haby & Long, 2005). The clearance and/or control of blackberry by landowners presents a major conservation challenge in these areas as it provides critical habitat for the southern brown bandicoot but, as a Weed of National Significance, must be controlled by landowners.

11. *To what degree are the identified threats likely to impact on the species in the future?*

Identified threats are highly likely to impact on this species in the future if left unmitigated.

12. *Can you provide additional or alternative information on threats, past, current or potential, that may adversely affect this species at any stage of its life cycle?*

We have no further information on the way various threats may adversely affect this species although would recommend climate change is also included as a key threatening process. Current climate change models for the Adelaide and Mount Lofty Ranges show an overall increase in temperature and decrease in average annual rainfall by over the next four decades (DENR, 2010) that will have adverse effects on habitat quality and could lead to further extinctions of local subpopulations.

13. *In seeking to facilitate the recovery of this species, can you provide management advice for the following:*

- *What individuals or organisations are currently, or need to be, involved in planning to abate threats, and any other relevant planning issues?*

A range of stakeholders are currently involved in management actions to address threats to *I. o. obesulus* and other relevant planning issues in South Australia. Key organisations include the Department of Environment, Water & Natural Resources, Adelaide Mount Lofty NRM Board, local councils, Catchment Water Management Boards, Biosecurity SA, Forestry SA, SA Water and Transport SA. There are also a number of community conservation groups actively involved in the management and restoration of bandicoot habitat and implementation of recovery plan actions including the Aldgate Valley Landcare Group (incorporating the Valley of the Bandicoots project),

the Sturt Upper Reaches Landcare Group, Friends of Belair National Park, Mylor Parklands Bushcare Group, the Fourth and Sixth Creek Catchment Groups, Friends of Kenneth Stirling Conservation Park, Friends of Mark Oliphant, Friends of Scott Creek Conservation Park, Friends of Deep Creek and Threatened Plant Action Group.

- *What threats are impacting on different populations, how variable are the threats and what is the relative importance of the different populations?*

We have no further information on the way various threats are impacting different populations or their degree of impact.

- *What recovery actions are currently in place, and can you suggest other actions that would help recover the species? Please provide evidence and background information.*

Regular fox baiting programs are currently undertaken by DEWNR on a number of reserves across the Mount Lofty Ranges and Fleurieu Peninsula to reduce the impact of fox predation on southern brown bandicoots. Intermittent fox control also occurs on selected SA Water properties and in the Cudlee Creek Forestry Reserve by Forestry SA and across a large number of privately owned properties in the Mount Lofty Ranges (Haby & Long, 2005). Further investigation of a baiting program targeting feral cats is warranted to reduce the threat of predation.

14. Can you provide additional data or information relevant to this assessment?

We strongly recommend that a long-term and rigorously designed monitoring program is adequately resourced and implemented to enable accurate population trends to be assessed and allow for early detection of further declines. In the absence of reliable data we recommend that a precautionary approach be taken in assessing the species eligibility for inclusion on the list of threatened species under the EPBC Act.

Comments on consideration for delisting

The statement that “A number of plans/management prescriptions in place are contributing to the survival of the southern brown bandicoot (south-eastern) and could continue to prevent the subspecies becoming threatened” is misleading. Without adequate resourcing for implementation of priority actions in such plans they are unlikely to achieve required conservation outcomes. Similarly, the statement that “Overlap with EPBC Act-listed threatened ecological communities should afford the southern brown bandicoot (south-eastern) and its habitat some protection” is also misleading as there is limited funding to conserve, protect and restore such habitats in South Australia.

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