

Mr Ted O'Brien MP Chair, Standing Committee on the Environment and Energy **c/o Committee Secretariat** PO Box 6021 Parliament House Canberra ACT 2600 <u>Environment.Reps@aph.gov.au</u>

21 July 2020

Dear Mr O'Brien,

Regarding the Inquiry into the problem of feral and domestic cats in Australia.

The Australian Mammal Society is an interdisciplinary, national scientific society of biologists, founded in 1958. Our mission is to contribute to the greater understanding and conservation of Australasian mammals. Given the perilous status of many of our mammal species, and the large part played by feral and domestic cats in Australian mammal declines, we support this Inquiry. We thank you and the Hon. Sussan Ley MP for the opportunity to comment. As a society of scientists, most of the information below relates to terms of reference that are relevant to our fields of expertise - particularly terms of reference 1, 2 and 5.

Australia's mammals are the most distinctive of any country on Earth¹. Many of our species come from ancient lineages that evolved in isolation, once Australia become separated from all other landmasses around 40 million years ago². When a species in Australia is lost to extinction, considerable evolutionary history is lost with it. 87% of Australian mammals occur nowhere else on earth³. Hence, Australia bears sole responsibility for their survival.

Australia has the worst mammal extinction rate of any country⁴. In the last 200 years, we have lost at least 30 mammal species⁵. Australian mammal extinctions have continued unabated throughout this time - two of our recent mammal extinctions were between 2009 and 2014⁶ - the Christmas Island pipistrelle and Bramble Cay melomys.

Mammals are proportionally the most threatened class of animals in Australia - 21% of our mammal species are threatened with extinction⁷. Of these species, 10 are listed as Critically Endangered⁸, which means that they are at an extremely high risk of extinction in the immediate future⁹. Even one of our most emblematic mammal species, the koala, which is

⁸ DAWE 2020

¹ Holt et al. 2013

² Eldridge and Herbert 2015

³ Chapman 2009

⁴ Woinarski et al. 2015

⁵ Woinarski et al. 2015

⁶ Woinarski et al. 2016

⁷ Woinarski et al. 2015

⁹ EPBC Act 1999, vol. 1, p. 312 (compilation 53)



estimated to bring billions to the Australian economy every year¹⁰, is facing a high risk of extinction in the medium-term future¹¹.

Feral cats have been implicated in the extinction of at least 22 Australian mammals¹². The true number is likely to be higher, because mammals that were previously unknown to science continue to be discovered, and several went extinct after European arrival (e.g. Northern Pig-footed Bandicoot, Yirratji¹³).

The introduced domestic cat spread across the country between 1820 and 1890¹⁴. The feral cat is now distributed across >99.8% of Australia¹⁵. The only known cat-free areas are 592 islands and 16 fenced predator-free reserves¹⁶ - cumulatively 5,185 km². We have an estimated 2.1-6.3 million feral cats in Australia¹⁷.

Undoubtedly, feral cats have had¹⁸ and continue to have¹⁹ a devastating impact on Australia's fauna. Cats eat an estimated 459 million native mammals²⁰, 377 million native birds²¹, 649 million native reptiles²², 92 million native frogs²³ and 1086 million native invertebrates²⁴ every year. Cats also compete for food with native predators such as owls²⁵ and quolls²⁶. Feral cats contributed to the loss of digging mammals across large parts of the continent, which has reduced tree recruitment and soil fertility^{27,28}. Cats spread diseases, particularly toxoplasmosis, which affects native mammals and humans²⁹.

Most feral cat management occurs at the site and local scale. Landscape-scale baiting is difficult and has limited success³⁰. Recent advances in control technology including *Felixer* grooming traps^{31,32} and *Curiosity* and *Eradicat* poison baits³³ are valuable. However, more needs to be done to find effective, long-term, landscape-scale approach to cat management

- ¹⁴ Abbott 2008
- ¹⁵ Legge et al. 2017
- ¹⁶ Legge et al. 2017
- ¹⁷ Legge et al. 2017
- ¹⁸ Woinarski et al. 2019
 ¹⁹ Woinarski et al. 2015
- ²⁰ Murphy et al. 2019
- ²¹ Woinarski et al. 2017
- ²² Woinarski et al. 2018
- ²³ Woinarski et al. 2020

³⁰ Doherty et al. 2017

¹⁰ Conrad 2014

¹¹ EPBC Act 1999, vol. 1, p. 312 (compilation 53)

¹² Woinarski et al. 2015

¹³ Travouillon et al. 2019

²⁴ Woolley et al. 2020

²⁵ Bilney et al. 2006

²⁶ Glen and Dickman 2005

²⁷ Fleming et al. 2014

²⁸ Halstead et al. 2020

²⁹ Doherty et al. 2017 and reference therein

³¹ Read et al. 2019

³² Moseby et al. 2020

³³ Doherty et al. 2017



in Australia. This is particularly important in northern Australia, where feral cats are strongly implicated in recent declines of many mammals³⁴. Research is showing that the most promising broad-scale management approach is maintaining habitat integrity so that enough individuals of native prey species can hide and escape from cats to enable populations to persist³⁵. In intact habitats with sufficiently low densities of feral cats, some mammal species can coexist with them^{36,37,38}.

A major reason why cats are able to suppress their mammal prey is that native mammals are exposed by habitat degradation, particularly intensified fire regimes and inappropriate grazing that continually remove ground cover, understorey plants and fallen timber that mammals use for shelter^{39,40}. The spread of feral cats across southern Australia has also been facilitated by rabbits^{41,42}, another introduced species. Feral cat management should not only focus on controlling cats in isolation, but needs to include land management to protect native mammal habitat, and in southern Australia, rabbit control^{43,44}.

The feral cat is one important threat to Australia's declining mammals. However, there are other major causes of mammal extinction and decline. Fewer than 10% of all Australian threatened species are impacted by feral cats⁴⁵. Many other invasive species are wreaking havoc on Australian fauna, flora and ecosystems. Feral foxes have contributed to more mammal extinctions, and continue to have severe effects on our mammals. Other threatening processes are also pushing our globally significant species towards extinction⁴⁶, particularly land clearing, which has removed millions of hectares of threatened species habitat in the past two decades⁴⁷. Catastrophic fires, worsened by climate change⁴⁸, recently killed over one billion Australian animals⁴⁹. Focussing on a single invasive species or single threatening process is inadequate to effectively deal with Australia's ongoing extinction crisis. For Australia to adequately respond to its feral cat problem – and more importantly, its species extinction crisis – far greater effort, money and resources must be allocated⁵⁰.

Below is a list of peer-reviewed studies relevant to the Inquiry Terms of Reference. Many of these papers are open access, and should be freely available to download with the URLs we

- ³⁵ Doherty et al. 2017
- ³⁶ Miritis et al. 2020
- 37 West et al. 2018
- ³⁸ Ziembicki et al. 2015
- ³⁹ McGregor et al. 2014
- ⁴⁰ McGregor et al. 2015
- ⁴¹ Smith and Quin 1996
- ⁴² Pedler et al. 2016
- ⁴³ Doherty et al. 2015
- ⁴⁴ Geary et al. 2019
- ⁴⁵ Kearney et al. 2019
- ⁴⁶ Kearney et al. 2019
- ⁴⁷ Ward et al. 2019
- ⁴⁸ van Oldenborgh et al. 2020
- ⁴⁹ Dickman 2020
- ⁵⁰ Wintle et al. 2019

³⁴ Davies et al. 2017

Inquiry into the problem of feral and domestic cats in Australia Submission 8



provide. For those articles that are not open access, you can contact the corresponding author of the paper and they will be able to provide a free copy.

Yours Sincerely

Associate Professor Vera Weisbecker, Associate Professor Diana Fisher, and Stephen Kearney on behalf of the Australian Mammal Society and its members.

Associate Professor Vera Weisbecker Flinders University President, Australian Mammal Society

Associate Professor Diana Fisher University of Queensland Vice-President, Australian Mammal Society

Stephen Kearney University of Queensland Conservation Officer, Australian Mammal Society

Australian Mammal Society



Footnote references

Abbott, I., 2008. The spread of the cat, *Felis catus*, in Australia: re-examination of the current conceptual model with additional information. *Conservation Science Western Australia*, 7(1).

https://www.dpaw.wa.gov.au/images/documents/about/science/cswa/articles/23.pdf

Bilney, R.J., Cooke, R. and White, J., 2006. Change in the diet of sooty owls (*Tyto tenebricosa*) since European settlement: from terrestrial to arboreal prey and increased overlap with powerful owls. *Wildlife Research*, *33*(1), pp.17-24. http://www.publish.csiro.au/WR/WR04128

Chapman, A.D., 2009. Numbers of living species in Australia and the world. Report for the Australian Biological Resources Study Canberra, Australia. Available at https://www.environment.gov.au/system/files/pages/2ee3f4a1-f130-465b-9c7a-79373680a067/files/nlsaw-2nd-complete.pdf

Conrad, E., 2014. The economic value of the koala. A report to the Australian Koala Foundation.

https://www.savethekoala.com/sites/savethekoala.com/files/uploads/Conrad%202014%20 The%20Economic%20Value%20of%20the%20Koala[2].pdf

Davies HF, McCarthy MA, Firth RSC, Woinarski JCZ, Gillespie GR, Andersen AN, Geyle HM, Nicholson E, Murphy BP, 2017. Top-down control of species distributions: feral cats driving the regional extinction of a threatened rodent in northern Australia. *Diversity and Distributions* 23, pp272-283. <u>https://onlinelibrary.wiley.com/doi/full/10.1111/ddi.12522</u>

DAWE (Department of Agriculture, Water and the Environment), 2020. EPBC Act list of threatened fauna, <u>https://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl?wanted=fauna</u>

Dickman, C 2020, More than one billion animals killed in Australian bushfires, Media release, The University of Sydney. <u>https://www.sydney.edu.au/news-opinion/news/2020/01/08/australian-bushfires-more-than-one-billion-animals-impacted.html</u>

Doherty, T.S., Dickman, C.R., Nimmo, D.G. and Ritchie, E.G., 2015. Multiple threats, or multiplying the threats? Interactions between invasive predators and other ecological disturbances. *Biological Conservation*, *190*, pp.60-68. https://www.sciencedirect.com/science/article/pii/S0006320715002086

Doherty, T.S., Dickman, C.R., Johnson, C.N., Legge, S.M., Ritchie, E.G. and Woinarski, J.C., 2017. Impacts and management of feral cats *Felis catus* in Australia. *Mammal Review*, 47(2), pp.83-97. <u>https://onlinelibrary.wiley.com/doi/abs/10.1111/mam.12080</u>



Eldridge M.D.B. and Herbert, C.A. (2015). Terrestrial mammal diversity, conservation and management in Australia. Pp. 298-319 in Austral Ark: The state of wildlife in Australia and New Zealand. A. Stow, N. Maclean, G.I. Holwell (eds). Cambridge University Press: Cambridge. <u>https://doi.org/10.1017/CBO9781139519960.017</u>

EPBC Act 1999, vol. 1 (compilation 53) https://www.legislation.gov.au/Details/C2014C00506

Fleming, P.A., Anderson, H., Prendergast, A.S., Bretz, M.R., Valentine, L.E. and Hardy, G.E.S., 2014. Is the loss of Australian digging mammals contributing to a deterioration in ecosystem function?. *Mammal Review*, 44(2), pp.94-108. <u>https://onlinelibrary.wiley.com/doi/full/10.1111/mam.12014</u>

Geary, W.L., Nimmo, D.G., Doherty, T.S., Ritchie, E.G. and Tulloch, A.I., 2019. Threat webs: Reframing the co-occurrence and interactions of threats to biodiversity. *Journal of Applied Ecology*, *56*(8), pp.1992-1997. <u>https://besjournals.onlinelibrary.wiley.com/doi/abs/10.1111/1365-2664.13427</u>

Glen, A.S. and Dickman, C.R., 2005. Complex interactions among mammalian carnivores in Australia, and their implications for wildlife management. *Biological Reviews*, *80*(3), pp.387-401. <u>https://onlinelibrary.wiley.com/doi/abs/10.1017/S1464793105006718</u>

Halstead, L.M., Sutherland, D.R., Valentine, L.E., Rendall, A.R., Coetsee, A.L. and Ritchie, E.G., 2020. Digging up the dirt: quantifying the effects on soil of a translocated ecosystem engineer. *Austral Ecology*, *45*(1), pp.97-108. <u>https://onlinelibrary.wiley.com/doi/10.1111/aec.12833</u>

Holt, B.G., Lessard, J.P., Borregaard, M.K., Fritz, S.A., Araújo, M.B., Dimitrov, D., Fabre, P.H., Graham, C.H., Graves, G.R., Jønsson, K.A. and Nogués-Bravo, D., 2013. An update of Wallace's zoogeographic regions of the world. *Science*, *339*(6115), pp.74-78. <u>https://science.sciencemag.org/content/339/6115/74.abstract</u>

Kearney, S.G., Carwardine, J., Reside, A.E., Fisher, D.O., Maron, M., Doherty, T.S., Legge, S., Silcock, J., Woinarski, J.C., Garnett, S.T. and Wintle, B.A., 2019. The threats to Australia's imperilled species and implications for a national conservation response. *Pacific Conservation Biology*, *25*(3), pp.328-328. <u>https://www.publish.csiro.au/pc/PC18024</u>

Legge, S., Murphy, B.P., McGregor, H., Woinarski, J.C.Z., Augusteyn, J., Ballard, G., Baseler, M., Buckmaster, T., Dickman, C.R., Doherty, T. and Edwards, G., 2017. Enumerating a continental-scale threat: how many feral cats are in Australia?. *Biological Conservation*, *206*, pp.293-303. <u>https://www.sciencedirect.com/science/article/pii/S0006320716309223</u>

McGregor, H.W., Legge, S., Jones, M.E. and Johnson, C.N., 2014. Landscape management of fire and grazing regimes alters the fine-scale habitat utilisation by feral cats. PLoS One, 9(10), p.e109097.

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0109097

Inquiry into the problem of feral and domestic cats in Australia Submission 8



McGregor, H., Legge, S., Jones, M.E. and Johnson, C.N., 2015. Feral cats are better killers in open habitats, revealed by animal-borne video. *PloS one*, *10*(8), p.e0133915. <u>https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0133915</u>

Miritis, V., Rendall, A.R., Doherty, T.S., Coetsee, A.L. and Ritchie, E.G., Living with the enemy: a threatened prey species coexisting with feral cats on a fox-free island. *Wildlife Research*. <u>https://www.publish.csiro.au/WR/WR19202</u>

Moseby, K.E., McGregor, H. and Read, J.L., 2020. Effectiveness of the Felixer grooming trap for the control of feral cats: a field trial in arid South Australia. *Wildlife Research*. <u>https://www.publish.csiro.au/wr/wr19132</u>

Murphy, B.P., Woolley, L.A., Geyle, H.M., Legge, S.M., Palmer, R., Dickman, C.R., Augusteyn, J., Brown, S.C., Comer, S., Doherty, T.S. and Eager, C., 2019. Introduced cats (*Felis catus*) eating a continental fauna: the number of mammals killed in Australia. *Biological Conservation*, *237*, pp.28-40. https://www.sciencedirect.com/science/article/pii/S0006320719300746

Pedler, R.D., Brandle, R., Read, J.L., Southgate, R., Bird, P. and Moseby, K.E., 2016. Rabbit biocontrol and landscape-scale recovery of threatened desert mammals. *Conservation Biology*, *30*(4), pp.774-782.

https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/cobi.12684

Read, J.L., Bowden, T., Hodgens, P., Hess, M., McGregor, H. and Moseby, K., 2019. Target specificity of the Felixer grooming "trap". Wildlife Society Bulletin, 43(1), pp.112-120. https://wildlife.onlinelibrary.wiley.com/doi/full/10.1002/wsb.942

Smith, A.P. and Quin, D.G., 1996. Patterns and causes of extinction and decline in Australian conilurine rodents. *Biological Conservation*, 77(2-3), pp.243-267. <u>https://www.sciencedirect.com/science/article/pii/000632079600002X</u>

Travouillon, K.J., Simões, B.F., Miguez, R.P., Brace, S., Brewer, P., Stemmer, D., Price, G.J., Cramb, J. and Louys, J., 2019. Hidden in plain sight: reassessment of the pig-footed bandicoot, *Chaeropus ecaudatus* (Peramelemorphia, Chaeropodidae), with a description of a new species from central australia, and use of the fossil record to trace its past distribution. *Zootaxa*, 4566(1), pp.4566. <u>https://doi.org/10.11646/zootaxa.4566.1.1</u>

van Oldenborgh, G.J., Krikken, F., Lewis, S., Leach, N.J., Lehner, F., Saunders, K.R., van Weele, M., Haustein, K., Li, S., Wallom, D. and Sparrow, S., 2020. Attribution of the Australian bushfire risk to anthropogenic climate change. *National Hazards and Earth Systems Sciences*. <u>https://doi.org/10.5194/nhess-2020-69</u>

Ward, M.S., Simmonds, J.S., Reside, A.E., Watson, J.E., Rhodes, J.R., Possingham, H.P., Trezise, J., Fletcher, R., File, L. and Taylor, M., 2019. Lots of loss with little scrutiny: The attrition of habitat critical for threatened species in Australia. *Conservation Science and Practice*, *1*(11), p.e117. <u>https://conbio.onlinelibrary.wiley.com/doi/abs/10.1111/csp2.117</u>



West, R., Letnic, M., Blumstein, D.T. and Moseby, K.E., 2018. Predator exposure improves anti-predator responses in a threatened mammal. *Journal of Applied Ecology*, *55*(1), pp.147-156. <u>https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.12947</u>

Wintle BA, Cadenhead NC, Morgain RA, Legge SM, Bekessy SA, Cantele M, Possingham HP, Watson JE, Maron M, Keith DA, Garnett ST. Spending to save: What will it cost to halt Australia's extinction crisis?. *Conservation Letters*. 2019 Nov;12(6):e12682. https://conbio.onlinelibrary.wiley.com/doi/abs/10.1111/conl.12682?af=R

Woinarski, J.C., Burbidge, A.A. and Harrison, P.L., 2015. Ongoing unraveling of a continental fauna: decline and extinction of Australian mammals since European settlement. Proceedings of the National Academy of Sciences, 112(15), pp.4531-4540. <u>https://www.pnas.org/content/112/15/4531.short</u>

Woinarski, J.C., Garnett, S.T., Legge, S.M. and Lindenmayer, D.B., 2016. The contribution of policy, law, management, research, and advocacy failings to the recent extinctions of three Australian vertebrate species. Conservation Biology, 31(1), pp.13-23. <u>https://doi.org/10.1111/cobi.12852</u>

Woinarski, J.C.Z., Murphy, B.P., Legge, S.M., Garnett, S.T., Lawes, M.J., Comer, S., Dickman, C.R., Doherty, T.S., Edwards, G., Nankivell, A. and Paton, D., 2017. How many birds are killed by cats in Australia?. *Biological Conservation*, *214*, pp.76-87. https://www.sciencedirect.com/science/article/pii/S0006320717302719

Woinarski, J.C.Z., Murphy, B.P., Palmer, R., Legge, S.M., Dickman, C.R., Doherty, T.S., Edwards, G., Nankivell, A., Read, J.L. and Stokeld, D., 2018. How many reptiles are killed by cats in Australia?. *Wildlife Research*, *45*(3), pp.247-266. <u>http://www.publish.csiro.au/WR/WR17160</u>

Woinarski, J.C.Z., Braby, M.F., Burbidge, A.A., Coates, D., Garnett, S.T., Fensham, R.J., Legge, S.M., McKenzie, N.L., Silcock, J.L. and Murphy, B.P., 2019. Reading the black book: The number, timing, distribution and causes of listed extinctions in Australia. Biological Conservation, 239, p.108261. <u>https://doi.org/10.1016/j.biocon.2019.108261</u>

Woinarski, J.C.Z., Legge, S.M., Woolley, L.A., Palmer, R., Dickman, C.R., Augusteyn, J., Doherty, T.S., Edwards, G., Geyle, H., McGregor, H. and Riley, J., 2020. Predation by introduced cats *Felis catus* on Australian frogs: compilation of species records and estimation of numbers killed. *Wildlife Research*. <u>https://www.publish.csiro.au/WR/WR19182</u>

Woolley, L.A., Geyle, H.M., Murphy, B.P., Legge, S.M., Palmer, R., Dickman, C.R., Augusteyn, J., Comer, S., Doherty, T.S., Eager, C. and Edwards, G., 2019. Introduced cats *Felis catus* eating a continental fauna: inventory and traits of Australian mammal species killed. *Mammal Review*, *49*(4), pp.354-368. https://onlinelibrary.wiley.com/doi/abs/10.1111/mam.12167 Inquiry into the problem of feral and domestic cats in Australia Submission 8



Ziembicki, M.R., Woinarski, J.C., Webb, J.K., Vanderduys, E., Tuft, K., Smith, J., Ritchie, E.G., Reardon, T.B., Radford, I.J., Preece, N. and Perry, J., 2015. Stemming the tide: progress towards resolving the causes of decline and implementing management responses for the disappearing mammal fauna of northern Australia. *Therya*, *6*(1), pp.169-225. http://132.248.10.25/therya/index.php/THERYA/article/view/236/html_66



Below is a list of peer-reviewed studies that we think will make the job of the committee that much easier as they have quantified and communicated numerous aspects of feral and domestic cats and their impacts on Australian fauna. The references are listed under the Inquiry Terms of Reference that we believe that they are most relevant to.

1. the prevalence of feral and domestic cats in Australia;

Abbott, I., 2008. The spread of the cat, *Felis catus*, in Australia: re-examination of the current conceptual model with additional information. *Conservation Science Western Australia*, 7(1).

https://www.dpaw.wa.gov.au/images/documents/about/science/cswa/articles/23.pdf

Legge, S., Murphy, B.P., McGregor, H., Woinarski, J.C.Z., Augusteyn, J., Ballard, G., Baseler, M., Buckmaster, T., Dickman, C.R., Doherty, T. and Edwards, G., 2017. Enumerating a continental-scale threat: how many feral cats are in Australia?. *Biological Conservation*, *206*, pp.293-303. <u>https://www.sciencedirect.com/science/article/pii/S0006320716309223</u>

Woinarski J.C.Z., Legge S.M., Dickman C.R., 2019. Cats in Australia: Companion and Killer. CSIRO Publishing. <u>https://ebooks.publish.csiro.au/content/cats-australia</u>

2. the impact of feral and domestic cats including on native wildlife and habitats;

Doherty, T.S., Dickman, C.R., Johnson, C.N., Legge, S.M., Ritchie, E.G. and Woinarski, J.C., 2017. Impacts and management of feral cats *Felis catus* in Australia. *Mammal Review*, 47(2), pp.83-97. <u>https://onlinelibrary.wiley.com/doi/abs/10.1111/mam.12080</u>

Fleming, P.A., Anderson, H., Prendergast, A.S., Bretz, M.R., Valentine, L.E. and Hardy, G.E.S., 2014. Is the loss of Australian digging mammals contributing to a deterioration in ecosystem function?. *Mammal Review*, 44(2), pp.94-108. <u>https://onlinelibrary.wiley.com/doi/full/10.1111/mam.12014</u>

Legge, S., Woinarski, J.C., Dickman, C.R., Murphy, B.P., Woolley, L.A. and Calver, M.C., 2020. We need to worry about Bella and Charlie: the impacts of pet cats on Australian wildlife. *Wildlife Research*. <u>https://www.publish.csiro.au/wr/WR19174</u>

Murphy, B.P., Woolley, L.A., Geyle, H.M., Legge, S.M., Palmer, R., Dickman, C.R., Augusteyn, J., Brown, S.C., Comer, S., Doherty, T.S. and Eager, C., 2019. Introduced cats (*Felis catus*) eating a continental fauna: the number of mammals killed in Australia. *Biological Conservation*, 237, pp.28-40. https://www.sciencedirect.com/science/article/pii/S0006320719300746

Radford, J.Q., Woinarski, J.C., Legge, S., Baseler, M., Bentley, J., Burbidge, A.A., Bode, M., Copley, P., Dexter, N., Dickman, C.R. and Gillespie, G., 2018. Degrees of population-level susceptibility of Australian terrestrial non-volant mammal species to predation by the



introduced red fox (Vulpes vulpes) and feral cat (Felis catus). *Wildlife Research*, 45(7), pp.645-657. <u>https://www.publish.csiro.au/WR/WR18008</u>

Woinarski, J.C.Z., Murphy, B.P., Legge, S.M., Garnett, S.T., Lawes, M.J., Comer, S., Dickman, C.R., Doherty, T.S., Edwards, G., Nankivell, A. and Paton, D., 2017. How many birds are killed by cats in Australia?. *Biological Conservation*, *214*, pp.76-87. <u>https://www.sciencedirect.com/science/article/pii/S0006320717302719</u>

Woinarski, J.C.Z., Murphy, B.P., Palmer, R., Legge, S.M., Dickman, C.R., Doherty, T.S., Edwards, G., Nankivell, A., Read, J.L. and Stokeld, D., 2018. How many reptiles are killed by cats in Australia?. *Wildlife Research*, *45*(3), pp.247-266. <u>http://www.publish.csiro.au/WR/WR17160</u>

Woinarski J.C.Z., Legge S.M., Dickman C.R., 2019. Cats in Australia: Companion and Killer. CSIRO Publishing. <u>https://ebooks.publish.csiro.au/content/cats-australia</u>

Woinarski, J.C.Z., Braby, M.F., Burbidge, A.A., Coates, D., Garnett, S.T., Fensham, R.J., Legge, S.M., McKenzie, N.L., Silcock, J.L. and Murphy, B.P., 2019. Reading the black book: The number, timing, distribution and causes of listed extinctions in Australia. Biological Conservation, 239, p.108261. <u>https://doi.org/10.1016/j.biocon.2019.108261</u>

Woinarski, J.C.Z., Legge, S.M., Woolley, L.A., Palmer, R., Dickman, C.R., Augusteyn, J., Doherty, T.S., Edwards, G., Geyle, H., McGregor, H. and Riley, J., 2020. Predation by introduced cats Felis catus on Australian frogs: compilation of species records and estimation of numbers killed. *Wildlife Research*. <u>https://www.publish.csiro.au/WR/WR19182</u>

Woolley, L.A., Geyle, H.M., Murphy, B.P., Legge, S.M., Palmer, R., Dickman, C.R., Augusteyn, J., Comer, S., Doherty, T.S., Eager, C. and Edwards, G., 2019. Introduced cats *Felis catus* eating a continental fauna: inventory and traits of Australian mammal species killed. *Mammal Review*, *49*(4), pp.354-368. https://onlinelibrary.wiley.com/doi/abs/10.1111/mam.12167

Woolley, L.A., Murphy, B.P., Geyle, H.M., Legge, S.M., Palmer, R.A., Dickman, C.R., Doherty, T.S., Edwards, G.P., Riley, J., Turpin, J.M. and Woinarski, J.C., 2020. Introduced cats eating a continental fauna: invertebrate consumption by feral cats (*Felis catus*) in Australia. *Wildlife Research*. <u>https://www.publish.csiro.au/WR/WR19197</u>

3. the effectiveness of current legislative and regulatory approaches;

RSPCA., 2018. Identifying Best Practice Domestic Cat Management in Australia. *RSPCA Australia: Deakin West, Australia*. <u>https://kb.rspca.org.au/wp-</u> <u>content/uploads/2019/01/Findings-and-Recommendations-Identifying-Best-Practice-</u> <u>Domestic-Cat-Management.pdf</u>



4. the effectiveness of Commonwealth action and cooperation with states and territories on this issue, including progress made under the Threat Abatement Plan, national framework and national declaration relating to feral and domestic cats in Australia;

nil

5. the efficacy (in terms of reducing the impact of cats), cost effectiveness and use of current and emerging methods and tools for controlling feral cats, including baiting, the establishment of feral cat-free areas using conservation fencing, gene drive technology;

Doherty, T.S., Dickman, C.R., Johnson, C.N., Legge, S.M., Ritchie, E.G. and Woinarski, J.C., 2017. Impacts and management of feral cats *Felis catus* in Australia. *Mammal Review*, 47(2), pp.83-97. <u>https://onlinelibrary.wiley.com/doi/abs/10.1111/mam.12080</u>

Kinnear, J.E., 2018. Mammal conservation and invasive species control in Australia: harnessing a potential extinction machine. *Australian Mammalogy*, *40*(2), pp.131-135. https://www.publish.csiro.au/am/pdf/AM17022

Miritis, V., Rendall, A.R., Doherty, T.S., Coetsee, A.L. and Ritchie, E.G., Living with the enemy: a threatened prey species coexisting with feral cats on a fox-free island. *Wildlife Research*. <u>https://www.publish.csiro.au/WR/WR19202</u>

RSPCA., 2018. Identifying Best Practice Domestic Cat Management in Australia. *RSPCA Australia: Deakin West, Australia*. <u>https://kb.rspca.org.au/wp-</u> <u>content/uploads/2019/01/Findings-and-Recommendations-Identifying-Best-Practice-</u> <u>Domestic-Cat-Management.pdf</u>

6. the efficacy of import controls for high risk domestic cat varieties to prevent the impacts of feral and domestic cats, including on native wildlife and habitats;

Dickman, C.R., Legge, S.M. and Woinarski, J.C., 2019. Assessing risks to wildlife from freeroaming hybrid cats: The proposed introduction of pet Savannah cats to Australia as a case study. Animals, 9(10), p.795. <u>https://doi.org/10.3390/ani9100795</u>

7. public awareness and education in relation to the feral and domestic cat problem; and

nil

8. the interaction between domestic cat ownership and the feral cat problem, and best practice approaches to the keeping of domestic cats in this regard.

nil