

2 November 2018

Victorian National Parks Association submission to the Senate Inquiry into the impacts of feral deer, pigs and goats

Many thanks for the opportunity to make a submission to the Senate on this matter. The Victorian National Parks Association is a non-government, independent member-based organisation which advocates for the long-term protection of Victoria's native biodiversity across all land tenures, and in the sea.

We have attached our recent submission to the Victorian draft Deer Management Strategy (*Attachment 1*), and an attachment to that submission (*Attachment 2*) as they expand on many of the issues identified here.

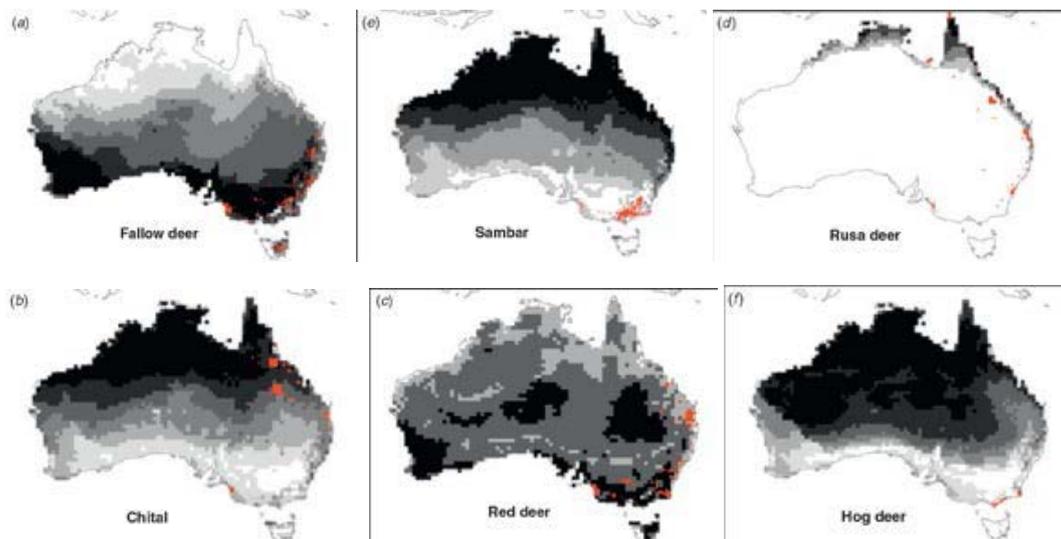
We have aligned our comments with the terms of reference below, however they will be largely based on the Victorian experience, and largely confined to environmental impacts.

The impact of feral deer, pigs and goats in Australia, and national priorities to prevent the problems worsening for the natural environment, community and farmers, including:

(a) the current and potential occurrence of feral deer, pigs and goats across Australia.

Deer, goats and pigs can occupy most habitats in Victoria, from coastal heathlands to the dry Mallee of the northwest, from the deep forested valleys of the eastern Victoria to the high plains. Deer are by far the greatest menace of the three.

Current (red) and projected (greyscale) distribution of deer in Australia



From: Davis et al. A systematic review of the impacts and management of introduced deer (family Cervidae) in Australia. CSIRO 2016. <http://www.publish.csiro.au/wr/wr16148>

We note the 2016 paper by Naomi Davis and colleagues which gives an indication (diagram above) of the current distribution of the six main species of deer in Australia, and their potential occupancy of most of the nation based on their original native habitats.

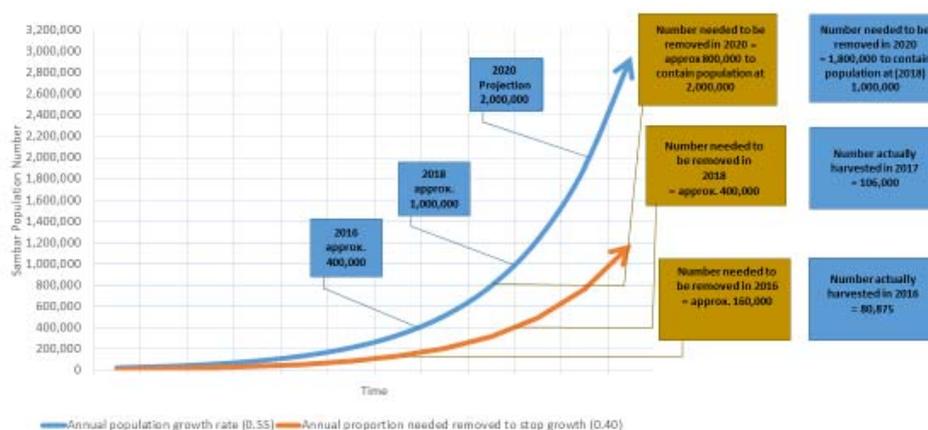
Sambar Deer are the most common deer in Victoria, occupying the eastern half of the state but increasingly elsewhere. Red Deer own Grampians National Park in the west, but are increasingly found further east. Fallow deer, largely spread as farm escapes, are widespread. Hog deer are now common in the far south east of Victoria, but have considerable capacity for expansion.

Deer numbers in the state are estimated by the Victorian government’s draft Deer Management Strategy at ‘between several hundred thousand up to one million or more’, most probably based on the capacity of recreational hunters to now shoot over 100,000 in a year. Given that few hunters operate in the more remote areas, an estimate of one million deer could be conservative.

A 2010 paper by Jim Hone et al, puts the maximum annual population growth rate of Sambar at 55%, and an estimated necessary annual cull of Sambar of 40% just to maintain the current population level. If the deer population is taken to be one million, then 400,000 deer will have to be removed in a year just to hold numbers at current levels. This is an absolute minimum benchmark critical to the development of an effective strategy. Failing to reach such a benchmark will greatly exacerbate the deer problem.¹

We note that maximum reproduction rates for other Victorian deer species vary: e.g. 45% (Fallow), 70% (Rusa), 76% Chital, and 85% (Hog). We also note that in poor conditions (eg the current dry period) rates of increase will be less, however that will, at most, allow only a short reprieve. This situation has been summed up in the diagram below (courtesy Samantha Bradley, Manningham Council).

Victorian Projected Population Growth – Sambar Deer



¹ Jim Hone, Richard Duncan, David Forsyth (2010) Estimates of maximum annual population growth rates of mammals and their application in wildlife management. *Journal of Applied Ecology* 2010, 47, 507-514. <https://besjournals.onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2664.2010.01812.x>

While feral goats and pigs have not reached these population levels, anecdotal reports by park rangers and other visitors to public and private bushland across the state indicate that they are widespread, and the problem is increasing. There is also evidence that they are being spread illegally – goats, pigs and deer species turn up far from their known distribution. Effective control is now critical.

(b) the likely and potential biosecurity risks and impacts of feral deer, pigs and goats on the environment, agriculture, community safety and other values.

Deer, in particular, are having a considerable impact on Victoria's biodiversity. Sambar have been listed as a *Potentially Threatening Process* under Victoria's Flora and Fauna Guarantee (FFG) Act in 2012, based on their impact on a number of already listed threatened species and Ecological Vegetation Classes (EVCs). However, we appear to be moving beyond just dealing with impacts on listed threatened species and communities, as called for in the FFG listing. Almost every native plant is browsed by Sambar, including genera such as *Pomaderris* which other browsers normally avoid.

Trampling, breaking and ringbarking plants adds to those impacts. A high population of Sambar and other deer species can hinder or significantly block recruitment of whole plant families, leading to long-term ongoing decline in Victoria's ecological systems. Then there are the impacts of wallowing, especially (but not only) to federally- and state-listed alpine and sub-alpine peat beds.

Rainforest communities across the state are already seriously impacted, often browsed bare from ground level to a deer's reach height, taking out mosses, ferns, fungi and epiphytic orchids etc. Rainforests (including littoral rainforests, dry rainforests, and a range of cool temperate and warm temperate rainforests) scattered in hundreds of highly vulnerable sites throughout eastern and south-western Victoria, cannot be adequately protected unless deer population numbers are greatly reduced throughout the state.

(c) the effectiveness of current state and national laws, policies and practices in limiting spread and mitigating impacts of feral deer, pigs and goats;

Clearly archaic laws (such as Victoria's Wildlife Act) which give a level of protection to deer as a game animal should be redrafted. Deer are pest animals potentially rivalling cane toads in their extent and impact, and they should be legally recognised as a pest species.

However, we find that one of the greatest impediments to effective management is not so much the lack of adequate laws, but the considerable ignorance of current state, federal and international legal requirements among public land managers and planners, the general public, and even politicians. Law should guide policy, and the funding for the implementation of policy, but that doesn't always happen.

We cite a few indicative clauses here:

Victoria's **National Parks Act (1975)** offers the highest level of protection for natural systems in the state.

It includes obligations to:

- (i) *preserve and protect the park in its natural condition for the use, enjoyment and education of the public;*
- (ii) *preserve and protect indigenous flora and fauna in the park;*
- (iii) *exterminate or control exotic fauna in the park;*

(iv) eradicate or control exotic flora in the park; and ...

Those obligations should override the apparent ‘protections’ offered to deer by Victoria’s Wildlife Act, at least in respect to national and state parks.

We also find few people are aware of Australia’s obligations under the **International Convention on Biological Diversity** which Australia signed in 1992 and ratified in 1993. According to Article 8 of the Convention (in-situ Conservation), signatories must, among other things:

- *Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity;*
- *Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings;*
- *Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies;*
- *Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;*
- *Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations. etc.*

That should give the Federal Government ample authority to act decisively on feral animals across the nation. We note that the protection of ‘protected areas’ from feral animals inevitably requires population control across the landscape. There are a number of other laws in place that should facilitate effective management of feral animals.

(d) the efficacy and welfare implications of currently available control and containment tools and methods, and the potential for new control and containment tools and methods;

The control of goats, pigs and deer will inevitably require a wide range of management tools and processes. We are not convinced at all that an expansion of recreational hunting will achieve control. Professional hunters have the capacity (and are obliged) to be more effective, and are likely to operate in a more humane way. While the number of professional operators in that field may be currently limited, there is the potential for experienced recreational hunters to become professional if appropriate, sustained funding was available.

We understand that a deliverable bait for deer is in the process of development by the Centre for Invasive Species Solutions, based on their already marketed feral goat ‘aggregator’. The roll-out of a deliverable, humane bait for deer has real promise, particularly as it increases the possibility of targeting highly-vulnerable areas, including remote areas. It would also be very employable in urban and peri-urban areas, or any other area where a high population of people make other control methods unworkable.

Strategic, long-term, cross-border control programs, using a multiplicity of tools etc., are essential.

(e) priority research questions;

Research options for control methods for deer, goats and pigs include:

- Biological controls
- Genetic controls
- Different baiting systems
- Attractants (pheromones etc) for trapping or other reasons
- Where the re-introduction of native predators (i.e. dingoes etc.) might be feasible.

(f) the benefits of developing and fully implementing national threat abatement plans for feral deer, pigs and goats; and

A national threat abatement plan for deer, pigs and goats is essential, and it could well include other animals – most natural systems in the nation are ill-equipped to deal with hard-hooved animals.

Importantly, plans should be based on a thorough, independent, expert assessment of the threats these animals pose to the current and long-term security of the nation's biodiversity. A similar assessment of economic, agricultural and social impacts should also be undertaken.

As part of threat abatement planning, a prioritised national research plan should be developed for each of feral deer, pigs and goats. Likely high priorities include the development of more effective and humane control methods and improved understanding of their impacts and of social factors that influence threat abatement.

(f) any other related matters.

We came across an interesting case where deer posed a significant threat as a vector of foot-and-mouth disease. The 1924 California foot-and mouth outbreak treatment included the killing of over 100,000 domestic (stock) animals, and 22,214 White-tail Deer in one area of the Stanislaus National Forest, in the Sierras.

“At various times, from one hundred to four hundred hunters were housed in some forty-three separate camps scattered throughout the mountains. Adding to the difficulties of finding and killing the deer amid some of the most rugged terrain in the West was the outraged opposition of local hunters, whose threats against government officials led to a temporary suspension of the operation in September. A few days later the hunt resumed, however, and continued until November, when snowstorms drove both deer and hunters to lower altitudes where the systematic slaughter continued throughout the winter. By June 1925 more than twenty-two thousand deer had been killed, of which a little over 10 percent were infected with foot-and-mouth disease. The national forests of the sierras remained under quarantine and were not reopened until June 1926, a year after the last infected deer was killed.”

From: Managing a National Crisis: The 1924 Foot-and-Mouth Disease Outbreak in California by Kendrik A. Clements. California History. Vol 84 Number 3 Spring 2007.

While that disease is not currently in Australia, a future occurrence is possible and would have considerable social, economic and environmental consequences.

We would be happy to engage further on these or other relevant matters at any opportunity.

For further information:

Phil Ingamells