

30 June 2016

Ms Jenny Mannering
Inquiry Secretary
Legislative Council
Parliament House
HOBART TAS 7000

Dear Ms Jenny Mannering

Please find below Greening Australia's submission to the Legislative Council Government Administration Committee 'A': Inquiry into the wild fallow deer population in Tasmania.

Thank you for the opportunity to make a submission to the **Inquiry into the wild fallow deer population in Tasmania.**

Yours Sincerely

Neil Davidosn

**For Sebastian Burgess
Direstor of Conservation
Greening Australia, Tasmania**

Inquiry into Deer Management in Tasmania

Submission by Greening Australia Tasmania to the LEGISLATIVE COUNCIL GOVERNMENT ADMINISTRATION COMMITTEE A

Inquiry terms of Reference

In accordance with Sessional Order 4 (14) Government Administration Committee A has this day resolved to initiate an inquiry on the following Terms of Reference:
To inquire into and report upon the wild fallow deer population in Tasmania with particular reference to:

- Environmental impacts on public and private land;
- Any impact on commercial activities on private land;
- The partly protected status of fallow deer under the Wildlife (General) Regulations 2010;
- Commercial opportunities for the use of wild population stocks; and
- Any matters incidental thereto.

30 June 2016

**Greening Australia Tas
Sebastian Burgess
Director of Conservation**

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Background

Greening Australia is a national “Not for Profit” company whose business is to restore and conserve Australia’s diverse natural landscapes to allow people and wildlife to co-exist. Greening Australia is one of the largest non-government organisations engaged in environmental restoration and has operated in Tasmania for 34 years. Greening Australia is one of a very few organisations capable of operating at a scale that makes a significant contribution to environmental restoration.

In recent years our focus has been on restoration of degraded agricultural land in the Derwent Valley and the Northern Midlands. Greening Australia and its partners are in the final year of a five year program to regenerate 1,000 ha of the Northern Midlands as part of an ambitious project to create two habitat corridors linking remnant patches of native bush between the Eastern and Western Tiers. These east west corridors pass through Ross in the south and through Epping Forest in the north. Greening Australia will shortly commence Stage 2 of this project to establish 5,000 ha of regenerated habitat in these corridors over the next ten years.

Greening Tasmania and its partners have invested \$6m in Stage 1 of the Midlands Project. Stage 2 will cost approximately \$25m.

Greening Australia is making this submission because deer have inflicted severe damage on its environmental plantings and had a significant financial impact on its operations in the midlands and the Derwent Valley during the last 5 years. Deer represent a threat to our operations and our goal to restore and conserve Australia’s diverse natural landscapes and its attendant flora and fauna.

Deer in Tasmania

Tasmania’s population of Fallow Deer (*Dama dama*) is widely recognized as the largest population outside of Europe. It was introduced as a hunting resource in the 1830’s, nurtured by landowners and in Tasmania is prized, above all other game, as a trophy species. Tasmania’s egalitarian society has taken to hunting across the income spectrum and rural/urban divide with large numbers of people hunting a wide spectrum of game species for trophies and for food. A small number of visitors also come to the State to hunt deer.

Deer have long enjoyed protected status and are currently listed as partially protected wildlife, subject to license and permit requirements limiting the number, sex and age of deer being taken. The primary objective of this statutory protection has been to maintain a population as a hunting resource. Secondary objectives have been to:

- Limit damage to economic resources caused by deer – principally agricultural crops, re-growth forests and plantations;
- Contain deer within a range largely constrained within the Midlands and Derwent Valley and bounded by the Eastern and Western Tiers;
- Limit damage caused by deer to natural systems through browsing, antler rubbing and competing for forage.

The population is variously reported as being between 20,000 and 40,000 animals. DIPIPWE estimate their population as 20,000. This represents a significant increase from the generally held estimate of 10,000 in the 1980's and 90's and is consistent with the widely held perception that their numbers are increasing markedly. A study that modelled the Tasmanian deer population under a range of scenarios estimated that, without population control, deer numbers could exceed 1million in 10 years Potts et al (2015) and extend into the world heritage area.

Fallow Deer are animals that favour forest edges and also tend not to venture to high altitudes where winter temperatures limit their distribution. **However in recent years with a gradually warming climate deer are apparently extending their range into higher altitudes. This represents a growing threat to Tasmania's reserve estate.**

Notwithstanding their protected status, deer are an introduced species and serve no positive ecological function in Tasmania. The only purpose of protection is to maintain a hunting resource.

Addressing relevant Inquiry Terms of Reference

- **Environmental impacts on public and private land;**

In the last 5 years Greening Australia has planted more than 300,000 trees and shrubs in the midlands and Derwent Valley of Tasmania covering a total area approaching 1,100ha. The total cost of these plantings exceeded \$6.5 million including much money from Federal and State Government. Imbedded in these restoration plantings have been a series of genetics trials run by the School Biological Sciences, University of Tasmania (\$500,000, 3-year ARC-Linkage funding). Every tree in these research trials has its own identifying number, which indicates the mother tree from which the seedling was grown. The aim of the trials was to see whether, in a changing climate, seedlings grown from trees near the planting site (local provenance) were best or whether seedlings from lower elevation, drier sites were favoured as the climate changes. Survival and growth has been carefully monitored over 5 years. However, the outcomes from this study have been compromised by severe damage by deer.

Between 12% and 45% of trees in the various genetics trials have been damaged by deer, and between 1% and 5% of trees have been killed by deer. Damage by deer takes the form of smashed branches and ringbarked stems of the trees that are most rapid growing and first reach a critical diameter class. It appears male deer require a post or pole 3 to 10 cm in diameter to rub the felt from their horns. It is the fastest growing and most successful trees that are destroyed. We say destroyed because once a tree is damaged in this way (even though not killed) recovery requires resprouting from the base and trees can seldom regain their previous stature or growth rate compared to surrounding trees, and they are often repeatedly targeted.

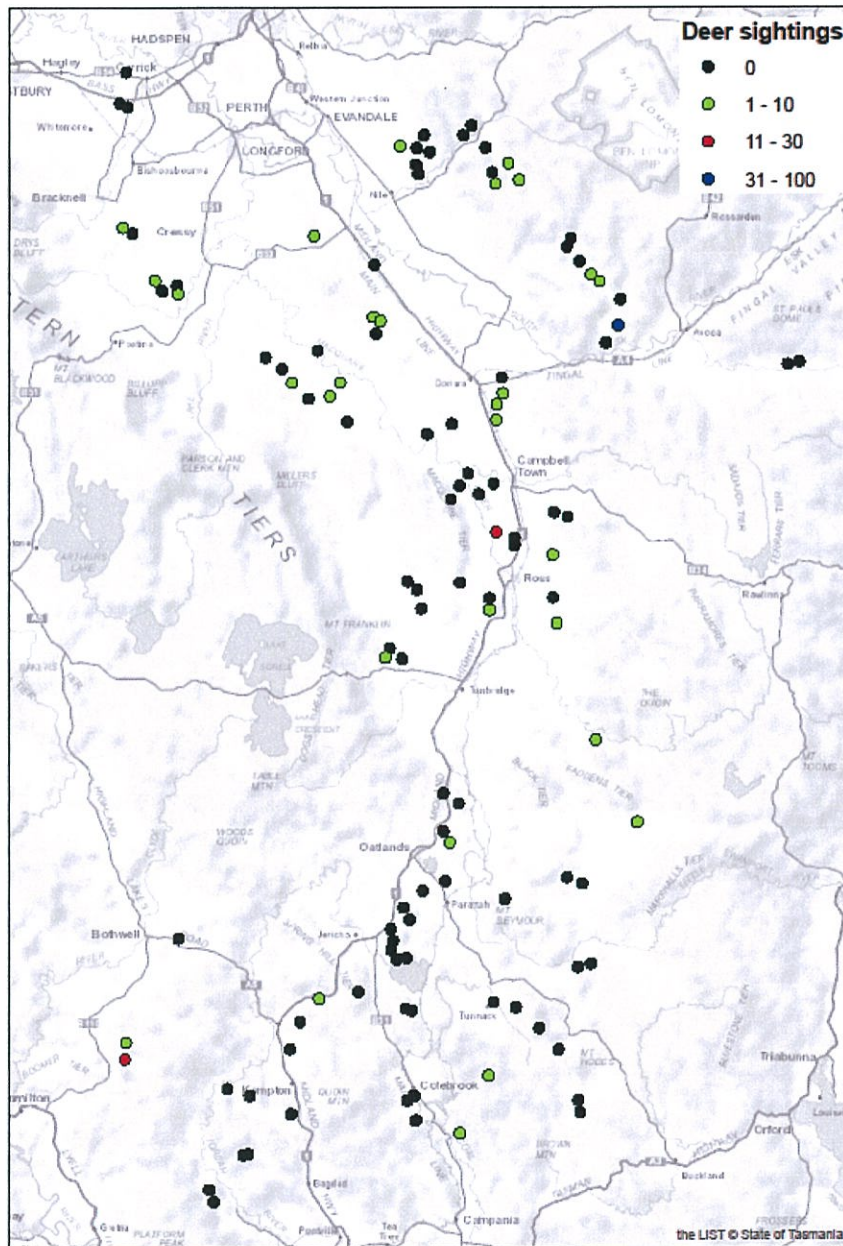
Genetic studies at the Dungleigh research site (near Bothwell) show Deer damage started in November 2012 (2% to 18% of total plants) when trees were 2 years old and 6 months later in May 2013, 33% of trees were damaged. In February 2014,

provenance trials showed Silver Peppermint (*Eucalyptus tenuiramis*) was more susceptible to rubbing damage (36% damage and 5% killed) than Snow Gum (*Eucalyptus pauciflora*) (18% damaged and 2% killed). There was a significant difference in the percentage of plants damaged by deer among provenances. The local Dungrove population of Silver Peppermint was the most affected by deer damage, with 45% of trees damaged. Damage to other trees and shrubs included: *Helichrysum* (70% plants damaged); *Cassinia* (58% plants damaged) and the fast growing Shining Gum (*Eucalyptus nitens*; 68% of trees damaged).



Images showing deer damage to a range of species planted in restoration genetics and mixed species trials at Dungrove and Connorville (images by Tanya Bailey).

A second research project, this time with zoologists (ARC-linkage project with the School of Biological Sciences, University of Tasmania) has also been imbedded in 1,000ha of Greening Australia's restoration in the Northern Midlands of Tasmania. The aim was to study the way native Tasmanian marsupials, birds and bats used and moved within and between the remaining healthy native grassy woodland remnants in this fragmented agricultural landscape. GPS tracking collars were placed on animals and fixed cameras were set up to record movement (see map below of deer records for cameras).



Records of deer sighting in the Northern midlands of Tasmania. Cameras set up to record native ground dwelling carnivores recorded feral deer at 33 of 115 sites in a winter survey in 2015 (image by Rowena Hamer).

One of the most common animal seen in the still cameras was deer. Cameras set up inside a 17ha deer exclusion area with a perimeter fence 2.1m high constructed of deer mesh also recorded pictures of deer. Somehow 2 deer had jumped the fence.



Image of feral deer recorded on camera inside a deer exclusion fence (top image) and inside a eucalypt genetics trial fenced for livestock (lower image). The pole in the foreground has a bait to attract native carnivores for which the cameras were set up.

- Any impact on commercial activities on private land;

Greening Australia establishes native vegetation in dense riparian plantations, widely spaced woodland plantations, both by planting and direct seeding. In a farming situation fencing is established to controlling browsing by stock and browsing wildlife, grass and weed competition is controlled, ground preparation is undertaken and tube stock planted or seed sown.

Deer impose significant additional operational costs on our business because we either have to build perimeter fences that are much more robust and higher than we would normally, or we have to individually cage every tree until they are at least five years old. Most damage is done by stags when they rub their antlers on young trees to remove velvet prior to the rutting season. They do this at a point when trees are considered to be past risk of browsing damage from native animals, when they are between 1 and 6 meters tall and 3 to 15cm in diameter. Deer often destroy large numbers in a single pass. Greening Australia staff often see herds of deer during regular site visits, with total numbers in a single herd exceeding 100 animals.



Greening Australia staff and University researchers regularly see large herds of deer at planting and other sites across the Midlands (image by Glen Bain).

Protecting plants from deer damage adds approximately 10% to plant establishment costs. Costs to protect plantings in Stage 1 of our Northern Midlands habitat corridors program through deer fencing and tree caging were approximately \$250,000 plus

many hundreds of uncoded hours from Green Army team members, students and volunteers.

To protect widely spaced trees in woodland restoration settings we have installed 10,000 weldmesh cages 1,200mm high by 600mm diameter at a cost of approximate \$15 each for materials plus labour cost of \$35 each to cut, transport and erect (a total of \$50/tree). We can avoid some of these labour costs by using volunteers and Green Army teams. We also fenced a 17ha site containing valuable eucalyptus genetic trials being conducted by the University of Tasmania with a two metre high electrified fence at a cost of \$46,000. This enclosure was breached by deer, who presumably entered by jumping over the fence. The animals continued to cause substantial damage to the plant trials for several weeks before they were detected and removed.

Costs for deer protection in Stage 2 (5000ha) of the habitat corridors program, based on current deer numbers, will be approximately \$1.25million - assuming we can rely on Green Army teams and voluntary labour to erect and install plant cages.

We are also establishing native plants using direct seeding techniques, which is a cheaper establishment technique. However, direct seeded areas cannot easily be protected from deer, as traditional stock and native wildlife fencing is not effective. Therefore we have to rely heavily on planting a guarding, which puts us at a distinctive cost disadvantage competing with mainland applicants for Australian Government environment initiatives (including the 20 Million Trees Programme). We recently missed out on over \$1m in funding through the 20 MT Programme because of our high costs per plant. We are losing an opportunity to conduct ecological restoration in Tasmania, where it is urgently needed. In addition, where we get funding, the restoration work we conduct, using well directed State and Federal Government support, is being compromised the extra costs of deer control and the damage done to established ecological plantings.



Image showing trees without cages damaged by deer in plantings in the Ross corridor.



Image showing two caged trees smashed by deer in paddock replanted and individually caged on 'Connorville'. Cost of each cage for materials and labour is approximately \$50.



Image of deer proof fence to protect University of Tasmania plant trials on 'Connorville'. The fence cost \$46,000 to protect a 17ha paddock. Several deer jumped over this fence and damaged the trials.

Greening Australia is working closely with landowners to develop plans for sustainable management of their properties. We work with them to stabilise river banks and rehabilitate natural ecosystems in an intensively farmed and productive landscape. There has been a concentration of high value irrigated crops in smaller areas of the property which act as a magnet for browsing. Therefore the stakes are much higher for landowners.

The damage caused by deer is an immediate cost to Greening Australia but has long-term implications for landholders and other stakeholders who lose the longer-term environmental benefits and ecosystem services arising from the project. These include stock shelter, winter/ drought forage, carbon credits, improved water quality and reduced soil erosion. In the long-term more intangible benefits relate to enhanced biodiversity and sustainable agricultural systems.

Deer can aggregate in large herds, can travel over long distances and can inflict significant damage to plantings (and agricultural crops) over night or certainly over a few days. Current control programs lack flexibility and people on the ground to make effective and timely interventions.

What can be done?

Greening Australia considers that the Tasmanian Government's objective of maintaining a hunting resource should not compromise viable agricultural production or ecological rehabilitation. The recent expansion in the population has reached a point where fallow deer pose a significant threat to these values.

Recommendation 1: The Tasmanian Government should immediately delist fallow deer as a partly protected species under the Wildlife Regulations 2010 and, in line with other states and territories, recognize fallow deer as a feral pest

Recommendation 2: The Tasmanian Government should adopt a target population of 10,000 head and instigate a robust monitoring program to inform decisions on management and population control.

Recommendation 3: Crop protection programs and policies should be made more flexible to allow effective management of the population down to the target population level.

Recommendation 4: The Tasmanian Government should acknowledge a land owners right to reduce fallow deer numbers on his/her property (in a humane way).

References

Bailey TG, Gauli A, Tillyard P, Davidson NJ, Potts BM (2014). Feral deer damage in Tasmanian restoration plantings. **Australian Plant Conservation** Volume 23 No 3, pp10-12,

Potts JM, Beeton NJ, Bowman DMJS, Williamson GJ, Lefroy EC & Johnson CN (2015) The historic, current and potential status of introduced Fallow Deer (*Dama dama*) in Tasmania, Australia. **Wildlife Research** (in press).

Allison Waddington

From: Neil Davidson <NDavidson@greeningaustralia.org.au>
Sent: Thursday, 30 June 2016 3:34 PM
To: DEER
Cc: Sebastian Burgess
Subject: Submission to the Legislative Council committee on deer
Attachments: Greening Aust Leg Council Deer Submission DRAFT 20160629.docx

Dear Jenny,

Please find attached a submission from Greening Australia Tasmania to the Legislative Council inquiry into wild fallow deer.

Regards

Neil

30 June 2016

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