



## National Feral Deer Action Plan

Newsletter December 2024



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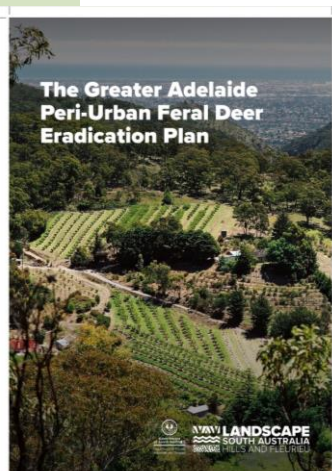
# Tackling Peri-Urban Problems

The [Greater Adelaide Peri-Urban Feral Deer Eradication Plan](#) was launched on November 4, to an audience of stakeholders from agencies, councils, and conservation organisations. This strategic plan seeks to address the growing challenge of feral deer in peri-urban areas around Adelaide. Sightings of feral deer in the Adelaide Hills and outer suburbs have been increasing, particularly along main roads and in backyards and paddocks.

The peri-urban plan was developed by a working group from a range of sectors and organisations including councils, land management agencies, parks, industry, and landholders of large blocks of land. This co-development approach reflects the broad community interest in tackling the peri-urban problem together. The plan aligns with an umbrella State program: The South Australian Feral Deer Eradication Program. The plan has also benefitted from the valuable experiences of other peri-urban programs on the eastern seaboard.

Feral deer in South Australia are projected to pose a growing threat to native vegetation, agricultural land, and public safety in coming years. They are known to degrade ecosystems, trample sensitive habitats, and disrupt agricultural production. Feral deer populations in South Australia are still relatively low compared to those in the eastern states. This gives South Australia a unique opportunity to eradicate deer early.

The peri-urban plan advocates for a combination of control measures, including ground shooting by professional shooters, aerial shooting, and lethal baits (when available) to reduce deer numbers. It also encourages land managers or their representatives, to control feral deer on their property where it is safe and in compliance with state legislation. Regular surveillance from community reports, cameras, and drones will help detect feral deer in the landscape and guide control efforts.



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## Upcoming events

[Ecological Society of Australia  
Conference](#)  
9<sup>th</sup> to 13<sup>th</sup> December 2024  
Melbourne, VIC

[International Rangeland  
Congress](#)  
2<sup>nd</sup> to 6<sup>th</sup> June 2025  
Adelaide, SA

[The Biodiversity Conference](#)  
28<sup>th</sup> to 30<sup>th</sup> October 2025  
Perth, WA

[PAWS](#)  
19<sup>th</sup> to 22<sup>nd</sup> May 2025  
Gladstone, QLD



A central focus of the plan is to promote collaboration among local communities, landholders, and government agencies while clearly defining their respective responsibilities. This is particularly important in peri-urban environments, where numerous land managers must be engaged to gain access for coordinated control efforts. Diverse and complex communities have different land management needs and perspectives, and they can be effectively engaged and educated through a variety of partners.

By combining immediate control measures with long-term management strategies, and community engagement programs, the peri-urban plan aims to protect agricultural land, domestic gardens, biodiversity, and habitats, enhance public safety, and prevent more feral deer from encroaching into the densely populated suburbs.

# Share your feral deer program or community engagement success story!

Please get in touch with us:  
[coordinator@feraldeerplan.org.au](mailto:coordinator@feraldeerplan.org.au)

GOAL	Engaging stakeholders and building capacity.
ACTIONS	<ul style="list-style-type: none"> <li>Develop and implement communication packages and strategies for increasing community awareness of feral deer impacts, tailored to the Greater Adelaide Peri-Urban Zone.</li> <li>Identify and develop organisation and community capacity for planning, coordinating, and implementing ground control, and training where needed.</li> <li>Seek permission from landholders for access to their land to implement coordinated cross-tenure surveillance and control of feral deer in priority areas.</li> </ul>
GOAL	Eradicating feral deer from the peri-urban zone by 2032.
ACTIONS	<ul style="list-style-type: none"> <li>Identify management zones for collaborative, coordinated control, to be implemented in order of priority based on risk, community support, stakeholder capacity, chance of success and complexity.</li> <li>Increase surveillance and intelligence gathering on where feral deer are, before and during operations (e.g. using cameras, drones and community reporting)</li> <li>Identify, plan and implement best practice ground and aerial control strategies (including new and emerging tools) to achieve eradication in each management zone.</li> </ul>
GOAL	Prevent harbouring/illegal release of feral deer in the peri-urban zone.
ACTIONS	<ul style="list-style-type: none"> <li>Where landholders refuse to participate in cross-tenure control programs or destroy feral deer on their land (as per legislation requirements), use compliance tools to ensure all feral deer can be eradicated.</li> <li>Regularly audit deer farm fences to ensure domestic deer are not likely to escape, and to require sub-standard fences to be fixed or upgraded promptly, where required by legislation</li> </ul>

The actions in the Greater Adelaide Peri-Urban Feral Deer Eradication Plan





## COMMUNITY DEER CONTROL PROJECT



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## Whitsunday Regional Council: Trialling thermal cameras in a sub-tropical climate to assist aerial culling of feral deer

**Bren Fuller – Whitsunday Regional Council**

The Whitsunday Regional Council (WRC) has partnered with the Queensland Department of Primary Industries (DPI) on a project to trial the use of thermal imagery to assist in aerial shooting of feral animals in northern Australia – a sub-tropical climate. The trial was supported by funding through the National Deer Management Coordination Program and DPI. The WRC provided a staff member (in-kind) with specialist marksman skills and experience.

The use of thermal technology to increase feral animal detection and culling is not new in Australia. Thermal imagery from the air has been used in the southern parts of Australia for more than 10 years, and in the past 3 years, Thermal Assisted Aerial Culling (TAAC) has been used successfully for feral deer in cool climates, in areas with dense canopies, and in areas with few deer. Thermal cameras can readily detect warm bodies of deer against a cool environment, even under tree canopies.

The Whitsunday thermal camera trial aimed to assess whether this TAAC technique could be applied in the tropics of northern Australia. The potential temperature window of operations in the tropics was perceived to be narrow.

The Whitsunday thermal camera trial occurred from July to August 2024 and involved twenty helicopter flights using a Robinson R66. The trial focused on the cooler daylight hours just after dawn to approximately 10 am, and the last two hours before sunset allowing four hours of operations. "The trial area focused on river systems near the central Queensland inland town of Collinsville, approximately 80km inland from Bowen.

The catchments where the trial occurred included open grass floodplains, open Eucalypt woodlands, and closed Melaleuca riparian forests along water courses. Over the last 12 years, traditional aerial culling operations using Robinson R44s, have targeted feral pigs along the river systems in the region near



*Whitsundays Aerial Culling Crew*

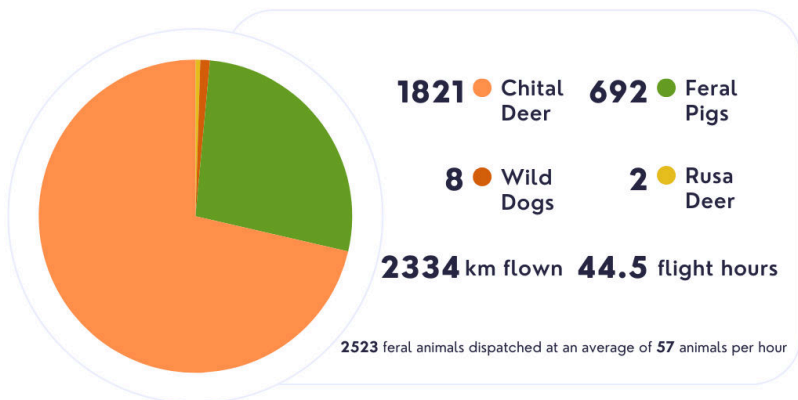
*From left to right - Kelly Forster, Jordan Munn, Bren Fuller, Matt Gentle, Aiden Sydenham*

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## WHITSUNDAY THERMAL ASSISTED TRIAL RESULTS



Above: Project area for thermal assisted trial. Inset photo of obscured chital deer.

While analysis of the trial data and outcomes are being conducted, some initial thoughts from the crew are below regarding TAAC compared with more traditional visual culling.

### ADVANTAGES

- Detection rate appeared to increase, particularly in habitats with dense canopy cover
- Detection distance increased (i.e. many animal groups were able to be detected at greater distances)
- Many animal groups would not have been detected without the assistance of the thermal camera

### CONSTRAINTS

- More expensive than conventional aerial shooting
- Requires a specialist operator for the thermal camera
- Requires a helicopter that can safely operate with a thermal camera operator configuration (i.e. three aircrew with room for the camera operator)
- It is essential to work with the weather conditions to optimize the use of thermal equipment

The Whitsunday thermal-assisted camera trial exceeded expectations. The thermal camera proved very useful in the winter months in Central Queensland. The addition of the thermal camera resulted in the detection of additional animal groups that would likely have been missed. Operation in the Robinson R66 remained safe and was more economical than larger turbine aircraft. The cost of using a thermal camera operator could be reduced by the council purchasing a suitable thermal camera and training staff on its use.

The use of thermal in aerial culling has a place in the warmer parts of Australia. We just need to learn more about how it can be best used to increase the effectiveness and efficiency of aerial programs.



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## Interview about Thermal Vehicle Survey Methods

with Andrew Williams – City of Gold Coast

**Can you provide us overview of vehicular thermal surveys?**

“Vehicular thermal surveys for feral deer are used to obtain data on their presence and distribution in peri-urban areas of the Gold Coast city. The survey areas are in or adjacent to known “deer hot spots”. Feral deer are often observed on residential properties at night, where thermal surveys from the roadside are beneficial for data collection and feral deer management. In their current form, the surveys have been conducted at regular intervals since 2021.”

**What spatial area does this method typically cover?**

Six survey areas with an average transect length of approximately 30 km.

**What are the pros and cons of using this method?**

Pros-

1. High detection rate with a low impact on the community when compared to spotlighting.
2. The thermal surveys also assist with behaviour assessment that directly complements control.
3. Beneficial in situations where new incursions need to be verified i.e. reactive surveys.



View from inside the vehicle.

Cons-

1. Initial startup cost can be a barrier to entry.
2. Can only survey what is accessible by road/track.
3. Limited by line of sight (i.e. thick vegetation, topography)

**What are your plans for the information generated from this survey technique?**

“We are always looking to improve our understanding of the deer distribution and population within the city. The surveys assist in two key ways- they provide a baseline; we can monitor activity, populations, and distribution over time. They also inform our management actions when combined with our community reports and camera monitoring data. We have also recently implemented pellet counts and vegetation impact surveys (similar to the resource provided by the NFDAP: *FIELD MANUAL: Deer density and impact transect survey*) at our management sites to measure the effectiveness of our program.”

**What advice would you give to others considering this technique?**

“Set yourself up for success; incorporate a mounted mobile device (preferably a tablet) into your surveys. You can easily view and spot deer as well as zoom and record on compatible devices, it makes things a lot more efficient (and more comfortable than holding a thermal monocular or binocular up all night). Remember to record or take photos so you can review and use them later.”



Thermal image of deer from roadside survey.

**WE WANT YOUR DEER IMPACT PHOTOS** – Do you have a photo that sends a strong message, that we could use in awareness campaigns? Please email: [coordinator@feraldeerplan.org.au](mailto:coordinator@feraldeerplan.org.au)

# COMMUNITY DEER CONTROL PROJECT



## Interview about Thermal Drone Survey Methods

with Andrew Williams – City of Gold Coast

**Can you provide us an overview of thermal drone surveys?**

“This project was developed as a pilot to explore the feasibility of the method with the view of expanding the program if the results were favourable.”

**What spatial area does this method typically cover?**

“In this project, we covered 1,287ha (343.5km of transects) with 2 drones over three nights (21.5 hours of flight time). The survey area was mapped out prior and transects were flown with a slight overlap (5%).”

**What are the pros and cons of using this method?**

Pros-

1. We detected deer that would not be visible from the ground due to vegetation, terrain or access. We detected multiple mobs of deer that were bedded in vegetation and would not have been detected from vehicles on our usual track route.
2. The ability to accurately integrate GIS mapping using data collected to identify deer corridors, species distribution, mob behaviour (such as size, feeding, and bedding patterns), and pinpoint areas for control.
3. Improved accuracy- easy to identify numbers, location, species of deer and non-target species.

Con-

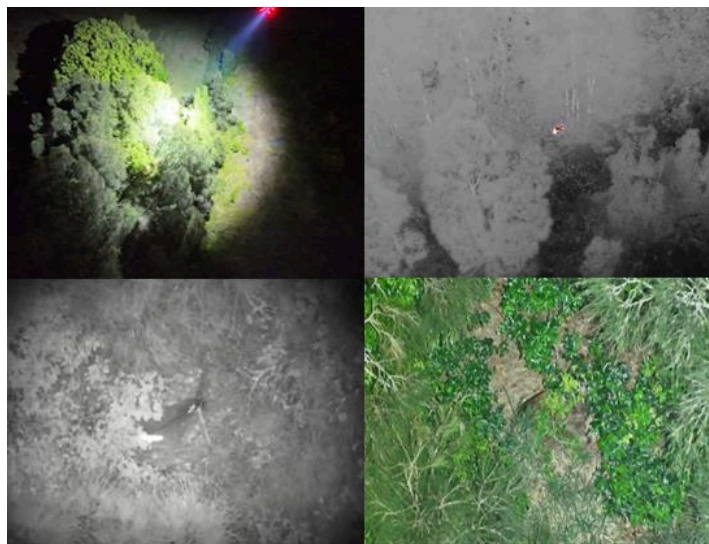
1. The project is relatively expensive, but the cost is justified by the need for project management, specialized qualifications, detailed reporting, and the necessary equipment.

**What are your plans for the information generated from this survey technique?**

“We plan to use the data gathered from this survey to estimate the local deer population. It will also inform our current management by providing insight into deer behaviour in the area.”

**What advice would you give to others considering this technique?**

“We found the video imagery to be excellent. The contractors (Ripper Corp.) used thermal, infrared, and colour imagery to identify deer at the species level. I can imagine that using a thermal drone for control efforts would be great for locating deer and reducing search time.”



*Comparison of view of deer using different techniques.*

*Top left: Drone photo*

*Top right: Thermal*

*Bottom left: Infrared*

*Bottom right: Spotlight*



# COMMUNITY DEER CONTROL PROJECT



## Interview about TAAC Trials in a Forest Plantation

with Amy Kirk – HVP Plantations

### What are key considerations for TAAC trial success?

“Key considerations for the program include prioritizing areas while maintaining flexibility to adapt to weather conditions, balancing effective communication with stakeholders to manage reputational risk, and securing broad support across stakeholder groups. Sharing knowledge and seeking expert advice is crucial, especially for cross-tenure programs that may not be feasible currently. Openness to innovation and change is important, as future improvements can enhance efficiency within budget constraints. The perceived risk of aerial programs is lower than ground shooting due to thorough documentation and experienced personnel. Additionally, species characteristics can influence tactical approaches.”

### What spatial area does this method typically cover?

“This method typically spans a broad range of spatial areas, including softwood plantations of all ages, native vegetation, and the surrounding farm and bushland. It has a long history in the region, with a mix of ground shooting activities—both poaching and legitimate, contracted operations. Over the course of the project, we covered an area of approximately 15,000 to 17,000 hectares.”

Right: Photo of HVP Plantation in Shelley, VIC

### What are the pros and cons of using this method?

#### Pros-

- 1. It provides a landscape-scale perspective on factors that impact deer management, such as changes in terrain, tree cover, vegetation types, and the proximity to neighbouring properties or infrastructure.
- 2. The results are easily interpretable and can be analysed and combined with other relevant data to ‘tell a story’.
- 3. The company and crew possess extensive experience and expertise, ensuring a safe and successful program.
- 4. Can cover a large area in a short amount of time.
- 5. Deer shot per hour is significantly more than ground shooting. (Continued on page 8)

Average	17 deer per hour
Highest	21 deer per hour
Lowest	13 deer per hour

Table displaying the number of deer culled per hour during HVP trials



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## Cons-

1. Victorian legislation, processes and procedures make it hard for private entities to plan and implement these programs.
2. Limited cross-tenure approach, resulting in fewer opportunities to implement integrated or complementary programs that utilize the same technology and crew.
3. Cost for non-governmental organizations can be a challenge.
4. At the mercy of the weather.
5. Managing unauthorized access will vary depending on the location of the program. Measures such as letterbox drops, road closures, and ground crews all require time and resources.

## What are your plans for the information generated from this survey technique?

“This was both a research and operational program, where integrating culling outcomes with plantation data will be crucial to illustrating key findings, such as the effectiveness of TAAC in a forest plantation. “

## What advice would you give to others considering this technique?

“The success of the operation relies heavily on the contracted crew’s experience, attitude, and commitment to doing a good job. It’s crucial to engage individuals with expertise in areas where support is needed. Effective, balanced communication is also key—while some concerns may arise, maintaining open dialogue with key stakeholders and nearby individuals affected by the operation is essential.”



*Above: View from inside helicopter*

*Left: HVP Shelley crew including Wazza White (Marksman), Chris – Helisurveys, and Amy Kirk.*



# COMMUNITY DEER CONTROL PROJECT



## Aerial Shooting does not cause Fallow Deer to Disperse

**Andrew Bengsen - NSW Department of Primary Industries and Regional Development**

A recent [study](#) led by the NSW Department of Primary Industries and Regional Development, and published in the journal *Wildlife Research*, investigated the effects of aerial shooting on the movements of fallow deer in Australia. Aerial shooting is an important tool for managing deer populations and could also play a vital role in responding to emergency animal disease outbreaks. However, there has been some concern that aerial shooting might cause deer to flee, potentially spreading pathogens to previously uninfected areas.

To address these concerns, researchers tracked the movements of 48 GPS-collared fallow deer before, during, and after aerial shooting operations at three sites in NSW. Despite the intense disturbance and significant population reductions caused by the shooting, none of the collared deer dispersed from their pre-shoot activity ranges. While some behavioural changes were observed—such as increased activity during or immediately after the shooting and shifts in activity patterns between day and night—these changes were minor, short-lived, and inconsistent. Importantly, none of the observed changes were likely to increase the risk of spreading pathogens to new areas.

The findings suggest that fallow deer exhibit strong site fidelity, preferring to stay within familiar territories even under significant pressure. This study provides valuable insights for feral deer management, indicating that aerial shooting can effectively control populations with minimal risk of dispersing individuals into new areas. This is particularly relevant for disease management, as it implies that aerial shooting may not contribute to the spread of diseases to uninfected regions.



*Collaring of captured fallow deer*



*GPS collared fallow deer*



*GPS collared fallow deer with helicopter*

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# Unveiling the Secrets of Wildlife Density: A Closer Look at Aerial Thermal Surveys

**Stuart Dawson - Department of Primary Industries and Regional Development**

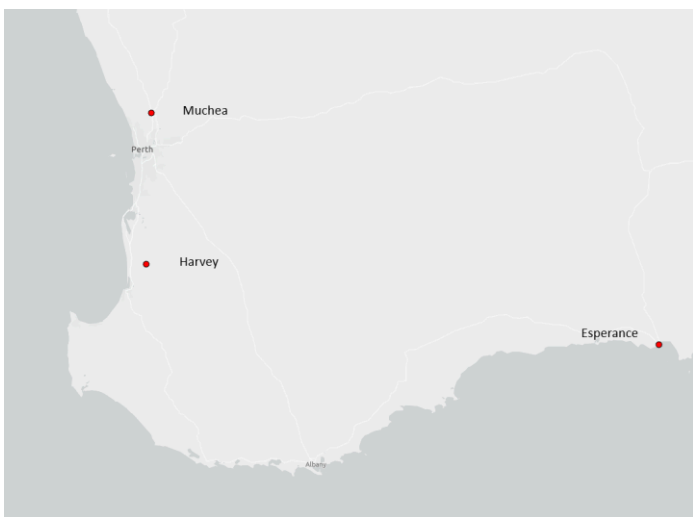
In the realm of wildlife management, understanding population density is crucial, particularly for managing pest species. Our latest initiative focuses on leveraging aerial thermal surveys to gauge deer populations across three distinct study sites: Muchea, located just 40 km north of Perth; Harvey, a more southern site 140 km from the city; and Esperance, situated 720 km east. These locations vary in size from 42 km<sup>2</sup> to 670 km<sup>2</sup>, providing a diverse landscape for our research.

regions, we can widen the transects to 2 km apart, effectively tripling the area surveyed. However, in low-density areas, we concentrate our efforts, focusing on smaller regions to capture sufficient data.

### Pros and Cons: Weighing the Methodology

Aerial surveys come with significant advantages. They enable rapid assessments over vast areas, regardless of terrain challenges, and the use of thermal imaging allows us to detect animals that are otherwise difficult to spot in dense vegetation. Compared to other methods like camera trapping grids—limited to areas less than 100 km<sup>2</sup>—thermal surveys are often more cost-effective on a per square kilometre basis.

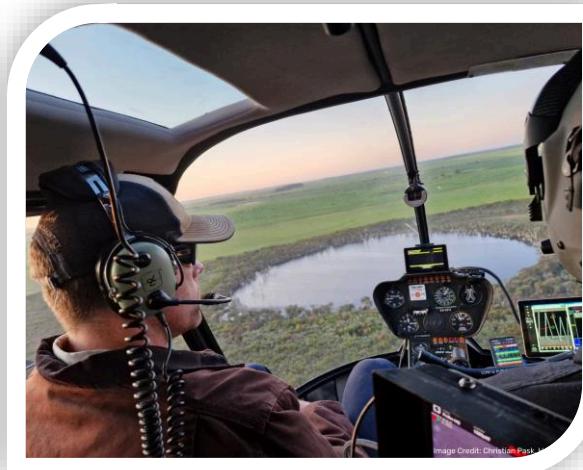
However, the financial and logistical challenges of conducting aerial surveys can't be overlooked. They tend to be expensive, and landholders must be informed before any survey takes place, adding layers of complexity to the planning process. (Cont. on page 9)



*Thermal aerial survey sites in Western Australia*

### The Power of Aerial Thermal Surveys

Using a zig-zag transect method spaced 1 km apart, our aerial thermal surveys allow us to cover substantial areas efficiently. While it's possible to conduct these surveys on a larger scale, a key trade-off exists: to ensure accurate population density estimations, we must strike a balance between area coverage and animal detection. In high-density



*Stuart Dawson(Left) Calum Harrison(Right), Esperance, WA*



# COMMUNITY DEER CONTROL PROJECT



## Unveiling the Secrets of Wildlife Density: Continued

### Strategic Use of Survey Data

The insights gained from these thermal surveys are pivotal for our ongoing deer research initiative. By understanding deer density across our three sites, we can develop effective control operations and evaluate their success. It's essential to grasp the scale of the issue at hand to determine the level of effort needed for successful management.

### Guidance for Future Researchers

For those considering aerial thermal surveys for wildlife density measurements, it's essential to clarify your objectives. While this technique excels at covering large areas, it can also introduce considerable margins of error.

Alternatives like camera trapping can yield richer data, including species identification, sex ratios, and behavioural trends, albeit over smaller areas.

Importantly, researchers should focus not just on density but also on impact. If we remove a significant portion of a population yet fail to address ongoing environmental disturbances, we may not fully understand the effectiveness of our control measures.

In conclusion, as we delve deeper into the complexities of wildlife management, the combination of innovative survey techniques and strategic planning will be vital in addressing pest species and promoting ecological balance.



*Red deer stag in Esperance, WA*



## THREATENED SPECIES SPOTLIGHT



### Miena Cider Gum: A Rare and Endangered Tasmanian Tree

*Eucalyptus gunnii* subsp. *divaricata*, or Miena Cider Gum, is a rare tree endemic to the Great Lake region on Tasmania's Central Plateau. The tree also has important cultural significance to the indigenous people of the area. Growing in frosty, poorly-drained woodlands at altitudes of 865–1150 meters, this species thrives in harsh conditions on Jurassic dolerite soils. However, Miena Cider Gum is now critically endangered.

The devastating bushfires of 2019 severely impacted the species, leaving only one stand in healthy condition. With fewer trees remaining, genetic diversity has plummeted, weakening the resilience of new seedlings. Recently, the National Deer Coordinator visited the region to witness the growing threat posed by deer along with threats from climate change and browsing possums. Introduced deer pose a threat by eating the sweet foliage and by rubbing their antlers against young tree trunks, damaging the bark and preventing water flow to the leaves—often killing young trees. Recent investigations of culled deer in the area found they had Miena Cider Gum leaves in their stomachs.

Conservation efforts are urgently needed to protect this unique species and its fragile habitat. Without intervention, the Miena cider gum faces a precarious future in Tasmania's changing landscape.

For a closer look at these iconic trees and the conservation efforts to protect them, view Australian Geographic's video showcasing the Miena cider gum's unique habitat and the challenges it faces.

[The Weeping Tree - Episode 1: Andry Sculthorpe, Palawa, Land and Heritage Coordinator](#)



*Dead Miena Cider Gum trees in Tasmania*



*Annelise Wiebkin along with staff from Tasmanian Parks and Wildlife Service observing a Miena Cider Gum Tree.*



## STAY INFORMED

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# Confronting the Feral Deer Crisis to Safeguard our Future

Our latest video delves into the interesting yet concerning history of feral deer in Australia, highlighting their dramatic rise since their introduction in the 1800s and 1900s. Initially brought in for hunting and meat purposes, Australia has seen feral deer populations surge to possibly 1-2 million over the past two decades.

The video displays how these feral animals are increasingly encroaching on urban spaces, moving beyond rural and agricultural habitats into our front yards.

Check out the video to see how these animals are affecting our landscapes, production areas, and road safety — and the need to respond now before the populations grow further. Feel free to show the video in your awareness-raising events.

[Safeguarding Australia's Future: The Feral Deer Story](#)



Photo Credit: Ashley Carlson

*Feral deer grazing in suburban yard highlighting the growing impact of the problem.*

## In the News and Literature

Victoria:

[Dealing with this introduced pest is like shooting Bambi](#)

[‘Australia’s next rabbit plague’: calls for feral deer in Victoria to be considered a pest instead of wildlife](#)

Queensland:

[Concern feral deer will become 'Australia's next rabbit plague'](#)

[Gold coast increasing focus on feral deer management \(Video\)](#)

South Australia:

[SA’s Feral Deer Eradication Program is delivering for farmers and the environment](#)

[Feral deer eradication funding to end in 2025 amid warnings cull rate needs to double in SA](#)

[Adelaide’s chance to avoid a feral deer crisis but ambitious plan needs funding](#)

First Progress Update for the 2024/25 Feral Pig and Pest Program

[Feral Pig and Pest Program 2024-25 - Local Land Services](#)

Literature:

[Site fidelity trumps disturbance: aerial shooting does not cause surviving fallow deer \(\*Dama dama\*\) to disperse](#)