

Strategic Plan for the South Australian Feral Deer Eradication Program

2022 - 2032



**Government
of South Australia**

Department of Primary
Industries and Regions

Strategic Plan for the South Australian Feral Deer Eradication Program 2022-2032

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Cover photo: Steve Bourne, fallow deer on the Limestone Coast





Contents

4	Message from the Ministers
5	Endorsement of the Strategic Plan
7	Executive summary
8	Introduction
10	Governance
11	Economic benefits of eradicating feral deer
12	Eradication target and timeline
14	Feral deer control tools
14	Strategic goals and actions
15	Implementation Plan

Message from the Ministers

Management of feral deer in South Australia is a priority for the Government of South Australia, as feral deer significantly impact on primary industries, the environment and road safety.

South Australia's primary industries and agribusiness sector is a vital part of our economy, supporting more than 70,000 jobs across the state. The sector has an export value of \$21 billion.

Feral deer cost South Australian primary producers an estimated \$36 million in direct productivity losses each year. The government is committed to helping reduce numbers of feral deer around the state and are investing more than \$2 million in feral deer management between 2021/22 – 2024/25.

The management of feral deer will lead to increased profitability of pasture-fed livestock, cropping, horticulture and forestry industries, restoration and sustainability of native habitats, recovery of burnt bushland, road and public safety, and protection of our biosecurity.

The eradication of feral deer in our landscape and achieving best practice management of farmed deer can be achieved if everyone works together through sustained coordinated control programs.

The Strategic Plan for the South Australian Deer Eradication program 2022-2032 (the Strategic Plan) prioritises work to achieve increased control of feral deer leading to eradication and long-term relief from impacts, and best practice management of farmed deer. The Strategic Plan sets out a framework for priorities and promotes consistency and collaboration across regions in South Australia.

The Strategic Plan is aligned with the National Feral Deer Action Plan 2023-2028.

It is important to acknowledge all stakeholders who have contributed to the Strategic Plan. There is growing enthusiasm to tackle this problem together and stop feral deer in their tracks.

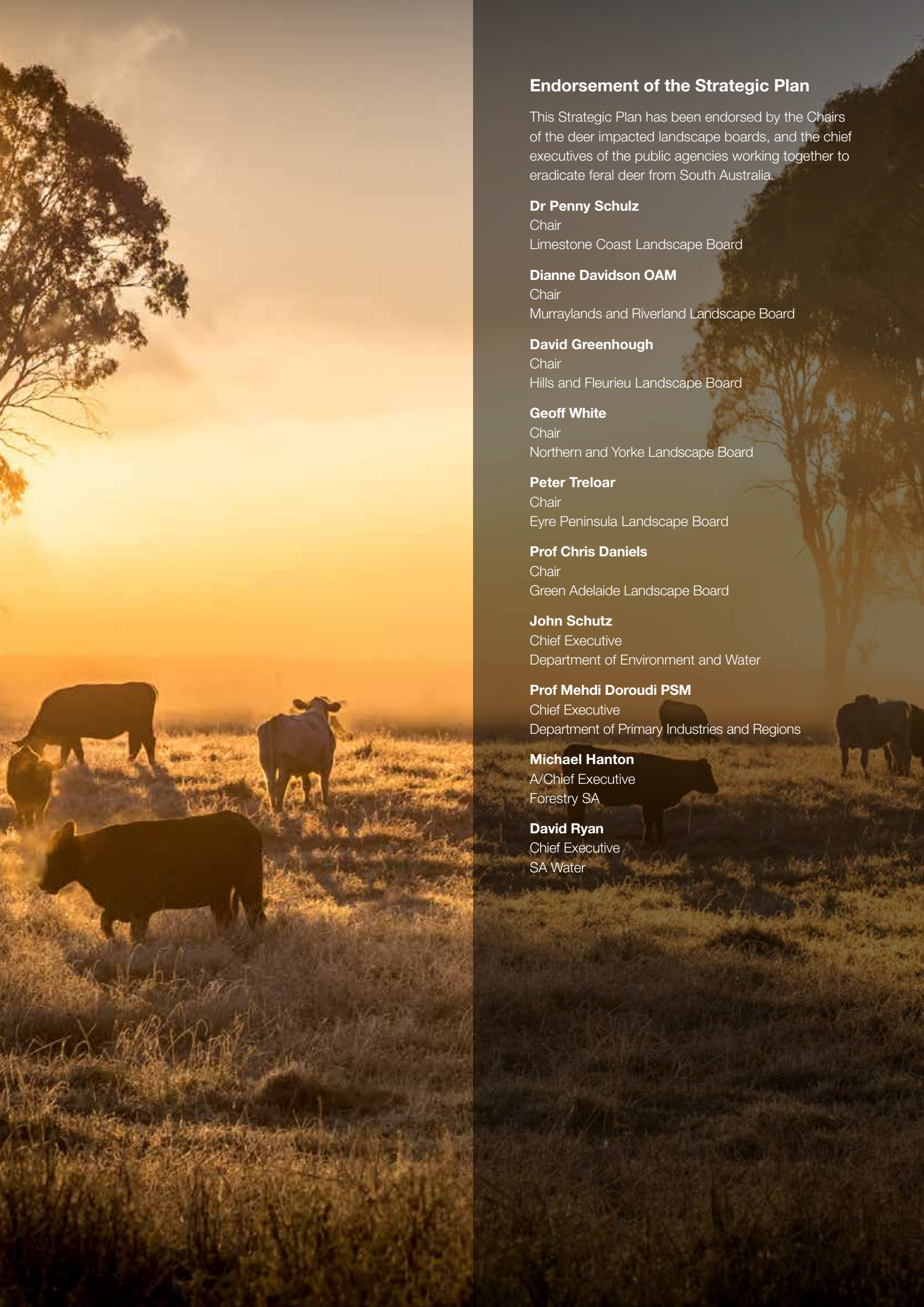
Hon Clare Scriven MLC

Minister for Primary Industries and Regional Development
Minister for Forest Industries

Hon Susan Close MP

Minister for Industry, Innovation and Science
Minister for Defence and Space Industries
Minister for Climate, Environment and Water





Endorsement of the Strategic Plan

This Strategic Plan has been endorsed by the Chairs of the deer impacted landscape boards, and the chief executives of the public agencies working together to eradicate feral deer from South Australia.

Dr Penny Schulz

Chair
Limestone Coast Landscape Board

Dianne Davidson OAM

Chair
Murraylands and Riverland Landscape Board

David Greenhough

Chair
Hills and Fleurieu Landscape Board

Geoff White

Chair
Northern and Yorke Landscape Board

Peter Treloar

Chair
Eyre Peninsula Landscape Board

Prof Chris Daniels

Chair
Green Adelaide Landscape Board

John Schutz

Chief Executive
Department of Environment and Water

Prof Mehdi Doroudi PSM

Chief Executive
Department of Primary Industries and Regions

Michael Hanton

A/Chief Executive
Forestry SA

David Ryan

Chief Executive
SA Water

Vision

To protect South Australia's primary production industries, the environment, and communities by eradicating feral deer, eliminating their impacts, and supporting best practice management of farmed deer.

Goals

- Goal 1** Engage with stakeholders to promote coordinated, landscape-scale feral deer control and build capacity.
- Goal 2** Eradication of feral deer from South Australia in 10 years.
- Goal 3** Prevent harbouring of feral deer, and illegal release and escape of farmed deer through enforcement of best practice fencing and tagging standards.

Photo courtesy of Stella Scanlon





Executive summary

Feral deer are one of Australia's worst emerging biosecurity threats. There are an estimated 1 to 2 million feral deer in Australia, with the highest numbers in New South Wales, Victoria and Tasmania.

They impact livestock, cropping, viticulture, and forestry industries, spread livestock diseases and weeds, threaten biodiversity, degrade conservation areas, and cause safety concerns on roadways.

Feral deer are declared for destruction under the *Landscape South Australia Act 2019*. Control programs in South Australia currently cost government about \$1.1 million per year, and landholders invest additional funds in their own control. Despite these programs, feral deer numbers in South Australia continue to increase, with a current estimated population of 40,000. With such low numbers, there is still an opportunity to eradicate feral deer.

In response to these issues, the Department of Primary Industries and Regions, Livestock SA, the Department for Environment and Water, and Landscapes SA developed a program to eradicate feral deer from South Australia. The program will cost an estimated \$14 million and will take 10 years.

This Strategic Plan has been developed to guide the eradication program.

Recent independent economic analyses of the proposed eradication program against business-as-usual management of feral deer indicate that the eradication program will generate a net benefit to the community of \$525 million over an 11-year period.

Eradicating feral deer is a priority for the South Australian Government and the livestock industry, particularly in areas where feral deer densities and impacts are greatest – the Limestone Coast, Northern and Yorke, and Hills and Fleurieu regions.

The Strategic Plan prioritises the work required to both eradicate feral deer from South Australia and to manage farmed deer within South Australia.

Introduction

Feral deer are widely regarded as Australia's worst emerging pest. Due to relatively small initial populations, low visibility in the environment and a lack of research, feral deer were formerly managed as a relatively benign pest species.

We now know that feral deer populations can grow rapidly, and can negatively impact primary industries, the environment, and communities. Nationally, there are about 2 million feral deer, with hotspots in New South Wales, Victoria, and Tasmania. The social, economic, and environmental impacts of feral deer in these states are severe.

In South Australia, feral deer are declared for destruction under the *Landscape South Australia Act 2019*, meaning land managers are required to destroy all feral deer. Population modelling indicates that the feral deer population in South Australia of 40,000 could increase to 208,000 within 10 years if management continues at current levels (Figure 2, Scenario 1).

Feral deer are defined as deer that are not kept in captivity. There are six species of feral deer in Australia:

- fallow deer, *Dama dama*
- red deer, *Cervus elaphus*
- hog deer, *Axis porcinus*
- chital deer (also known as axis or spotted deer), *Axis axis*
- rusa deer (also known as Timor deer), *Cervus timorensis*
- sambar deer, *Cervus unicolor*.

The most common species in South Australia are fallow deer and red deer.

Feral deer exist in large established populations and in isolated small incursions, from peri-urban areas to rural and remote areas. Feral deer are found across about 40% of the agricultural parts of the South Australia, where they are increasingly causing economic impacts (Figure 1).

Despite policy implementation and ongoing, high-quality regional control programs coordinated by regional landscape boards and the Department for Environment and Water, which have slowed population growth of feral deer, numbers in South Australia are at their highest ever level, and distributions of several subpopulations are expanding.

Eradication scenario modelling indicates that eradication of feral deer is achievable within 10 years (Figure 2, Scenario 2). If action is not taken, the increasing feral deer population will become more difficult and expensive to manage.

To eradicate feral deer, participation in coordinated ground and aerial control programs by public and private landholders is required, alongside the development and adoption of new and innovative control tools.

The Strategic Plan outlines the goals, actions and control tools required for the eradication of feral deer and achieving best practice management of farmed deer in South Australia over the next 10 years. Eradication refers to effective eradication, where the state-wide population is stable or decreasing and numbers less than 1,000 feral deer. At that level, feral deer populations can be suppressed by farmers, public land managers and recreational hunters.

The Strategic Plan will be reviewed after three years.

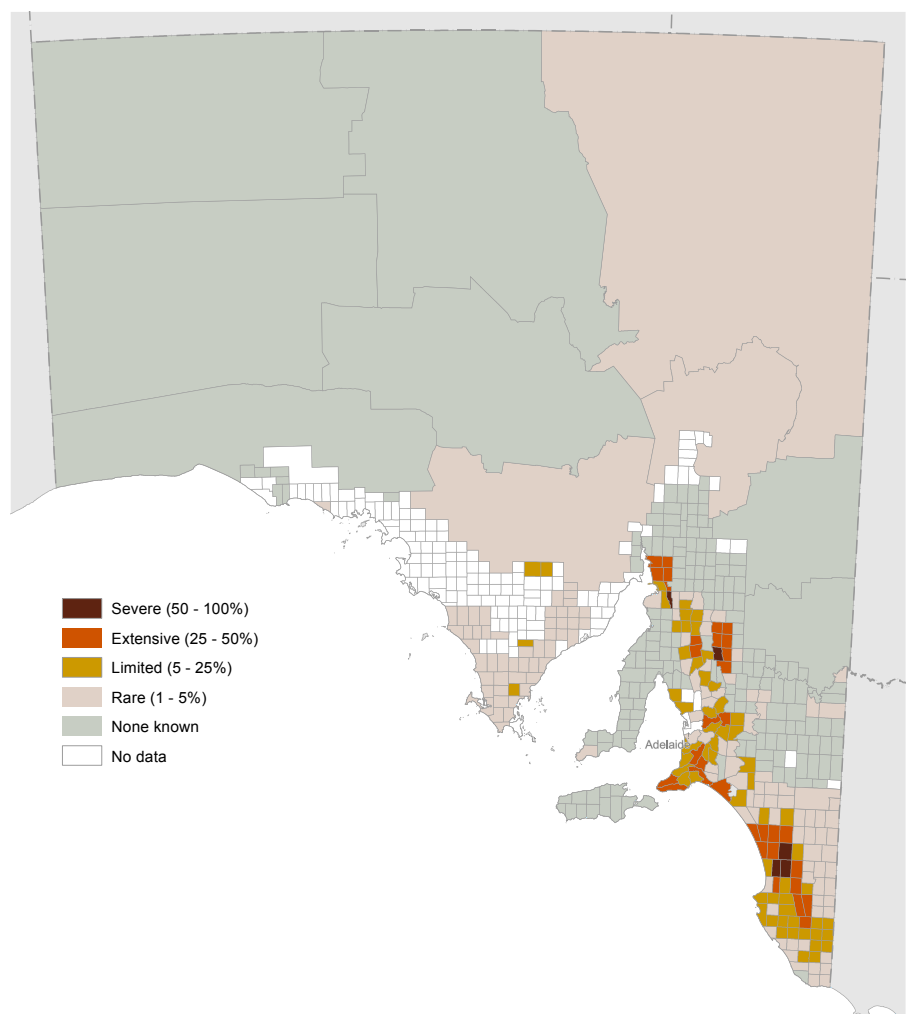


Figure 1: Map of feral deer presence across South Australia in 2021. Feral deer have spread to about 5% more of the agricultural parts of the state in five years.



Photo courtesy of Stella Scanlon

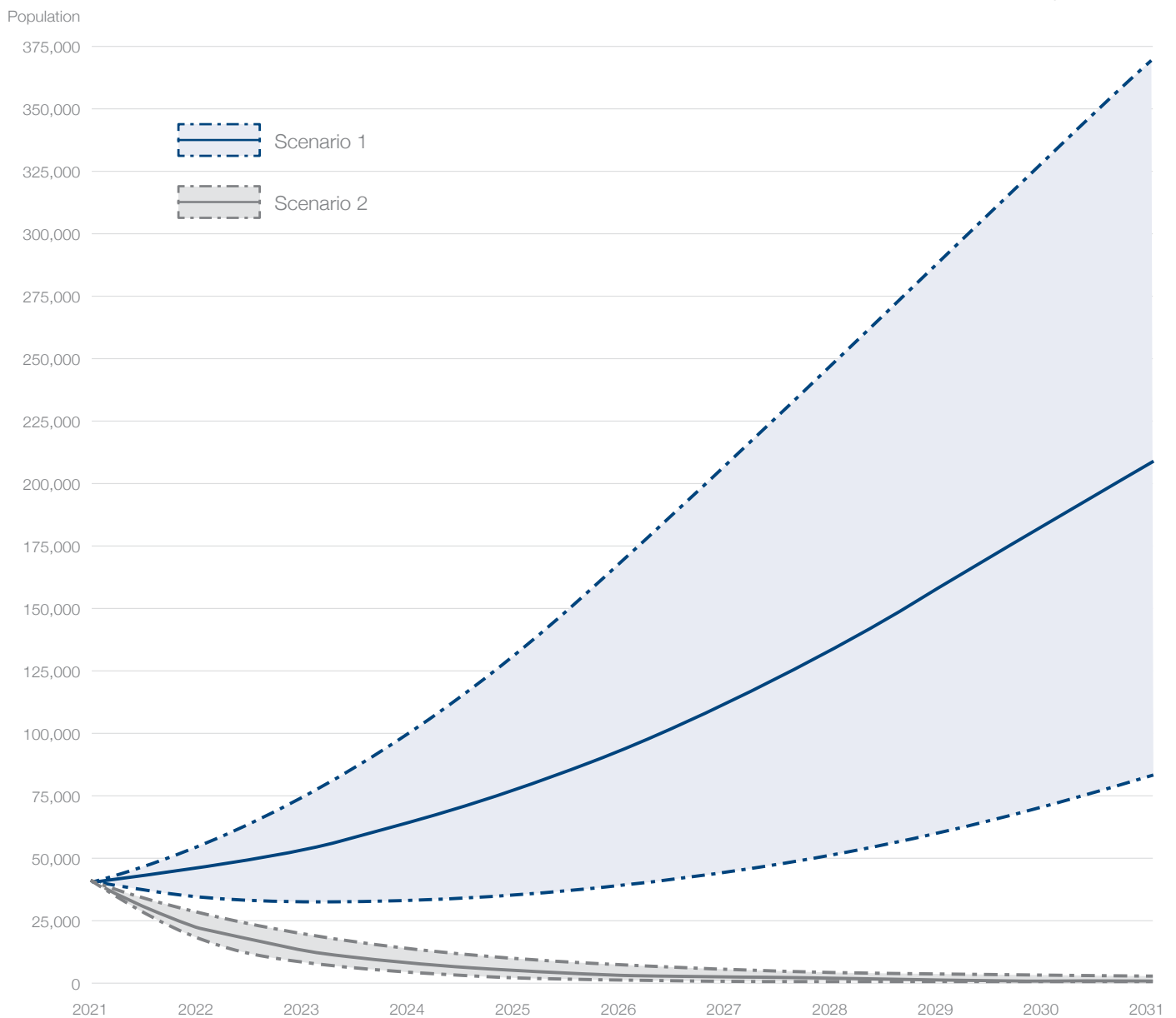


Figure 2: Projected feral deer population under two different management scenarios. The blue line shows predicted population expansion of feral deer in South Australia under a business-as-usual approach to feral deer control, without increased investment and intensity, and the blue shaded area shows the potential variability in the predicted population (Scenario 1). The grey line shows predicted population decline of feral deer with a 10-year eradication program (Scenario 2). Source: Feral Deer Control Economic Analysis, BDO EconSearch 2023.

Governance

Legislative framework and responsibilities of stakeholders in feral deer management

The Strategic Plan is guided by the goals, approaches, and priorities of the [National Feral Deer Action Plan 2023-2028](#) and [Australian Pest Animal Strategy 2017-2027](#). Together, these documents provide a framework for best practice management of feral deer in Australia, with the broad goals of preventing establishment of new feral deer populations, minimising impacts, eradication of populations, and improving leadership, coordination, and feasibility of management.

The Minister for Climate, Environment and Water has statutory responsibility under the *Landscape South Australia Act 2019* (Landscape Act) for the prevention or control of impacts on the environment, primary production or the community caused by invasive species. The Department for Environment and Water collaborates with regional landscape boards to coordinate high-quality control programs for feral deer and provides compliance and investigation services in response to potential breaches of the Landscape Act.

The Minister for Primary Industries and Regional Development is the program sponsor for the South Australian feral deer eradication program. The Department of Primary Industries and Regions Biosecurity division provides technical and policy advice, and in close collaboration with the Department for Environment and Water and regional landscape boards, coordinates the implementation of pest plant and animal control programs in accordance with the Landscape Act. The division also oversees research into new control tools, including work to register a new bait for feral deer.

Landscape boards support landowners with their pest plant and animal control. Landscape boards also support landowners to carry out invasive species control. Landscape boards ensure compliance with the Landscape Act. Some landscape boards have feral deer management strategies, which inform the Strategic Plan.

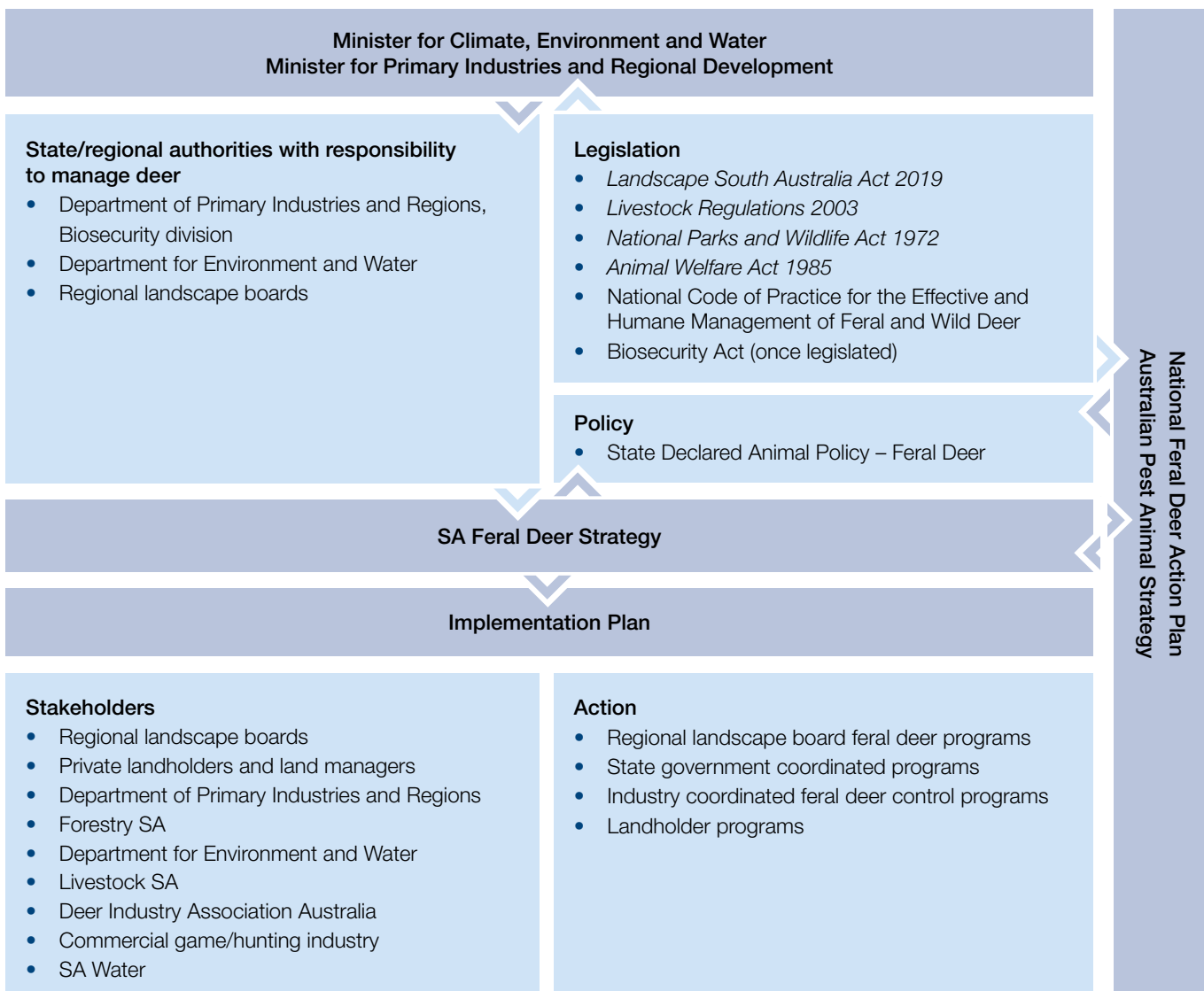


Figure 3: Legislative and planning framework for the deer eradication program.

Economic benefits of eradicating feral deer

Economic impacts

Feral deer impact South Australian livestock, cropping, viticulture, and forestry industries through damage to crops, pastures and grapevines, competition with livestock for pasture, damage to fences and infrastructure and spread of weeds.

Independent economic analyses of the 10-year eradication program have been undertaken by BDO EconSearch ([Feral deer control economic analysis: a report for Primary Industries and Regions SA 2022](#)) to assess the proposed program's merit as an investment for government and industry.

The economic analyses found that in 2022, feral deer cost South Australian agricultural industries an estimated \$36 million in productivity losses, with the greatest impacts in the Limestone Coast, Northern and Yorke, and Hills and Fleurieu landscape regions. State-wide productivity losses are projected to increase to over \$241 million by 2031 without further investment in feral deer control.

Feral deer are reservoirs and vectors of endemic animal diseases such as Johne's disease and footrot, and have the potential to transmit exotic animal diseases, such as foot-and-mouth disease and lumpy skin disease. These exotic animal diseases will have devastating impacts on the South Australian livestock industry in the event of an outbreak.

The BDO EconSearch economic analyses indicated that the feral deer eradication program would have a positive economic impact (Figure 4). Specifically, they showed:

- Implementing the program will have a net benefit of \$517.8 million to the South Australian economy over a 10-year period.
- The benefit-cost-ratio for the analysis was 2.7. This indicates that for every dollar of investment under the eradication program, \$2.70 is returned to the SA community.
- Expected impact on gross state product is \$216.9 million over a 10-year period.
- Implementing the program will generate economic benefits equivalent to 425 full time equivalent jobs by the eleventh year.

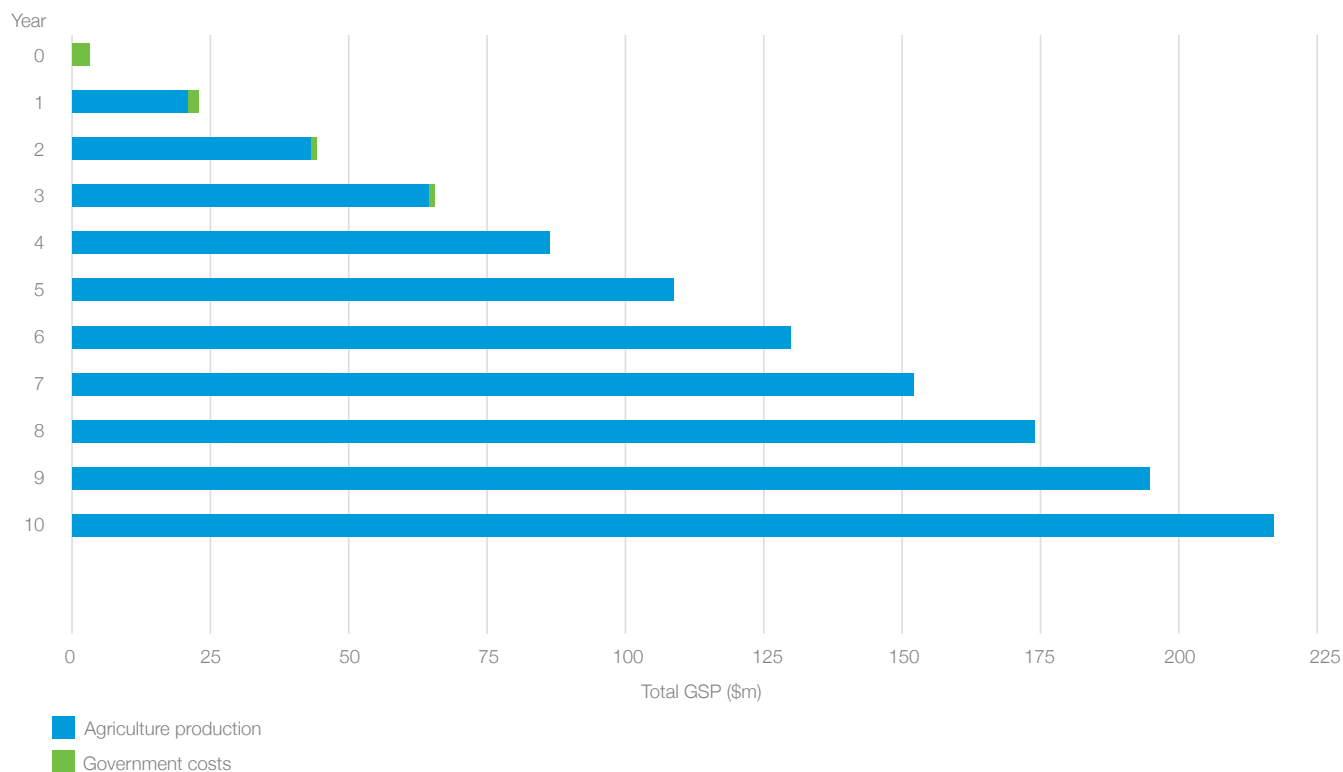


Figure 4: Projected economic impacts in Gross State Product (GSP) derived from implementing the \$14 million, 10-year eradication program. Source: Feral Deer Control Economic Analysis, BDO EconSearch 2023.

Eradication target and timeline

To achieve eradication within a 10-year timeframe, a reduction target of 60-65% of the feral deer population per year is required for the first two years of the program (Figure 5).

This is required to counter the natural rate of increase of feral deer populations (about 34% per year for fallow deer).

After the first two years, between 38-55% population cull targets per year are required to achieve eradication by 2033.

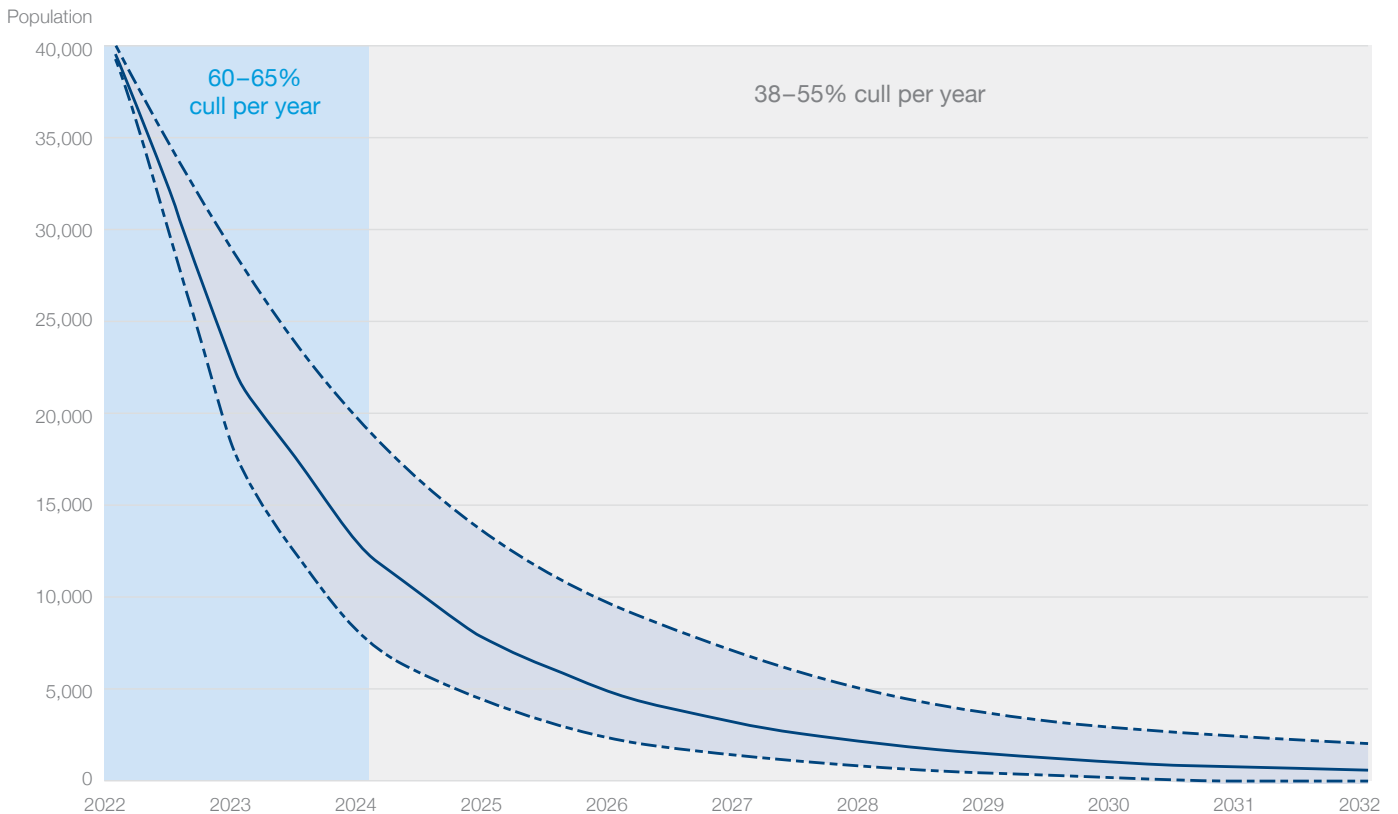


Figure 5: Population modelling of feral deer in South Australia under the fully funded eradication scenario, indicating the required 60-65% population cull required in the first two years (red shading) of the program. Source: Feral Deer Control Economic Analysis, BDO EconSearch 2023.



Figure 6: Kangaroo Island is the location of the state's first feral deer eradication.

Kangaroo Island – Targeted eradication of a small population

Kangaroo Island is nationally important for biodiversity conservation, primary production, and tourism. Fallow deer became feral on the island in 1999 when up to 300 animals escaped from a deer farm.

From the start of the eradication program in 2006, the Kangaroo Island community reported deer sightings.

Deer control was predominantly by ground shooting conducted by staff from the Kangaroo Island Landscape Board with support from island residents.

Populations declined at an average rate of about 40% per year (over 12 years) and eradication was achieved in 2018. Sightings of feral deer were reported by the community throughout the program, which made it possible to find the last few deer.



Figure 10: View from inside the helicopter cockpit during a thermal aerial cull, with a thermal camera operator (bottom left), primary shooter using a shotgun (bottom right), pilot (top right) and a secondary shooter/spotter (top left), in pursuit of a mob of deer.



Figure 11: View of the left-hand side of the helicopter with crew getting ready for take-off for a thermal aerial cull, showing the thermal camera operator (right) and one of the two marksmen on board (left).



Figure 12 Picture in picture image of feral deer being detected by the thermal imager during a thermal aerial cull. The heat signature of the deer is detectable even in dense vegetation, and the thermal camera operator guides the marksman (also using a thermal rifle scope) to the target using a high-powered laser.

Aerial culling – Increasing efficiency and humaneness

Aerial culling is one of the primary control tools for feral deer in South Australia. For many years, National Parks, and Wildlife Service, in collaboration regional landscape boards, have been coordinating extensive, high-quality aerial culling programs for feral deer, which have slowed their population growth.

Recently, technological and methodological innovations have been shown to increase the effectiveness and efficiency of aerial culling.

The first trial of thermal assisted aerial culling for feral deer in South Australia was conducted in the Limestone Coast region in 2021. This new technique combined a state-of-the-art thermal video camera operated by an additional crew member, who uses a high-powered laser to guide an aerial marksman using a thermal rifle scope. The addition of thermal technology means that feral deer can be detected and controlled, even in dense vegetation.

Further innovation on the thermal assisted aerial culling method took place in 2022. Culls were conducted on the Fleurieu Peninsula, where 1,019 deer were culled in 57 hours of flight time, and on and Limestone Coast, 611 deer were culled in 26 hours of flight time. These culls trialed new methods, including incorporating shotguns and a second shooter in combination with the thermal technology.

Analyses of the humaneness and efficiency of the new two shooter and shotgun methodology was conducted in collaboration between the Department of Primary Industries and Regions, the Limestone Coast Landscape Board, and Flinders University. The results indicated that use of a suitable shotgun improves the welfare outcomes for culled deer, compared to programs that use .308-calibre rifles only. Improved welfare outcomes were achieved by reduced pursuit time and reduced time between the first shot and death. The results also indicated that the new method leads to a high program efficiency.

Feral deer control tools

A range of control tools will be used to eradicate feral deer (Table 1) depending on feral deer numbers, the local environment, needs of landholders and proximity to sensitive assets or communities.

Toxic baits are typically the most efficient control tools for pest animals. If a new bait can be registered for feral deer it will add a new control tool to the toolbox.

To achieve the 60-65% population reduction target for the first two years of the program, the most effective broadscale tools for feral deer control must be used. Aerial culling (including with thermal cameras) is currently the most cost effective broadscale control tool for feral deer (In terms of dollar spent per deer) and will be the primary control tool used in the initial stages of the eradication program.

Table 1: Benefits, limitations, and humaneness of tools available or in development for controlling feral deer (modified from the National Feral Deer Action Plan).

BENEFITS	LIMITATIONS	HUMANENESS
CONTROL TOOL: Standard aerial shooting		
<ul style="list-style-type: none"> • Detecting and culling deer quickly over large areas, including areas inaccessible by vehicle. • Rapid knock-down in density. Up to 1,000 feral deer can be culled in 12 hours in open paddocks, at maximum densities (at least 40/km²) and accessibility. 	<ul style="list-style-type: none"> • Thick vegetation or built-up areas with lots of roads etc. • Often not supported by communities in areas bordering peri-urban and urban locations. • 2-3 aerial culls may be required each year in an area. • Availability of trained marksman and aviation service providers. • Extensive coordination, consultation, engagement, and operation planning required. • Cost per day is high. 	<ul style="list-style-type: none"> • Professional shooters are trained and experienced to ensure humane culls.
CONTROL TOOL: Thermal assisted aerial shooting		
<ul style="list-style-type: none"> • Detecting and culling deer quickly over large areas, including areas inaccessible by vehicle. • Most animals can be detected, even in thick vegetation. 	<ul style="list-style-type: none"> • Poor detection on warm days or and in bright sunlight. • More expensive per hour than standard aerial shooting. • Availability of accredited marksman and aviation service providers. • Availability of thermal camera equipment and operators. • High levels of coordination, consultation, engagement, and operation planning required. • Cost per day is high. 	<ul style="list-style-type: none"> • Professional shooters are trained and experienced to ensure humane culls. • Thermal video cameras can confirm effectiveness and humaneness of each shot.
CONTROL TOOL: Ground shooting by professionals		
<ul style="list-style-type: none"> • Effective for targeting small numbers of feral deer, including areas at distance from roads, where professionals are prepared to walk. • Intensive, coordinated programs can be very effective. • With the addition of thermal scopes/binoculars target animals can be detected even in thick vegetation. 	<ul style="list-style-type: none"> • Time and effort to achieve results. • Expensive and difficult for large populations. • Expensive for small populations dispersed over large, geographically isolated, or densely vegetated areas. 	<ul style="list-style-type: none"> • Professional shooters are trained and experienced to ensure humane culls.

BENEFITS	LIMITATIONS	HUMANENESS
CONTROL TOOL: Ground shooting by volunteers / land manager/ hunters		
<ul style="list-style-type: none"> • Effective for targeting small numbers of feral deer, assuming the hunter agrees to meet the program goal of controlling the population (including females). 	<ul style="list-style-type: none"> • Considerable time and effort required to achieve results. • Limited access to optimal equipment such as thermal scopes/binoculars to target animals at night or in thick vegetation. • Some hunters target individual deer as trophies, for meat quality, over others of lower quality, or at the expense of removing all available feral deer, or are not prepared to hunt at optimal times, durations or at long walking distances from roads. • Inefficient for large and geographically isolated populations. • Inefficient for small populations dispersed over large or densely vegetated areas. 	<ul style="list-style-type: none"> • Depends on experience and skill of shooter. • Some incorporated shooting groups have accreditation or reviews to ensure humane protocols are followed and program goals are prioritised.
CONTROL TOOL: Commercial harvesting		
<ul style="list-style-type: none"> • Effective for dense, populations of feral deer. May be linked to kangaroo harvests. Carcasses are removed and used for human or animal consumption. 	<ul style="list-style-type: none"> • Not viable when feral deer numbers are small. • Can be less practical due to restrictions on time to processing and no heart or lung shots permitted due to meat processing standards. 	<ul style="list-style-type: none"> • Professional shooters are trained and experienced to ensure humane culls are followed.
CONTROL TOOL: Drones fitted with thermal cameras		
<ul style="list-style-type: none"> • Effective for detecting feral deer over property scales. Drones can guide ground shooters and reduce search effort. 	<ul style="list-style-type: none"> • CASA accreditation may be required. 	<ul style="list-style-type: none"> • Drones are designed to detect feral deer. Drones do not generally scare feral deer.
CONTROL TOOL: Exclusion fencing		
<ul style="list-style-type: none"> • Feral deer can be reliably excluded from sensitive assets. 	<ul style="list-style-type: none"> • Fences must be constructed to a standard to exclude deer and must be maintained. • Fences are expensive to install. 	<ul style="list-style-type: none"> • Suitably constructed fences exclude feral deer.
CONTROL TOOL: Trapping		
<ul style="list-style-type: none"> • Can be effective along known pathways. 	<ul style="list-style-type: none"> • Feed or attractants must be regularly replenished, and traps monitored. Carcasses must be removed from traps. • Poor performance when plenty of feed is available. • Requires significant effort to maintain and monitor the traps and attractants. • Not guaranteed to catch deer. 	<ul style="list-style-type: none"> • Shooting can be done in a controlled situation.
CONTROL TOOL: Attractants		
<ul style="list-style-type: none"> • Feral deer can be attracted to a desirable area, or attracted out of an inaccessible area, for effective control. 	<ul style="list-style-type: none"> • Attractants (including feeder devices) must be maintained and replenished. • May not be effective in the same area once shooting has occurred. 	<ul style="list-style-type: none"> • Culls can be done in an optimal location for good welfare outcomes.
CONTROL TOOL: Baits/poisons (not currently permitted in SA)		
<ul style="list-style-type: none"> • Cost-effective landscape- scale control tool for many established pest animals in Australia. • Could be used in a range of settings, including peri-urban areas. 	<ul style="list-style-type: none"> • No poisons registered by for deer control in South Australia. • Baits must be maintained and replenished. • Delivery methods must exclude other animals, and these can be difficult to develop. 	<ul style="list-style-type: none"> • Considered when assessed for registration by the Australian Pesticides and Veterinary Medicines Authority.

Strategic goals and actions



Goal 1

Engage with stakeholders to promote coordinated, landscape-scale feral deer control and build capacity.

Photo by Alex Marinelli Eyre Peninsula Landscape Board

Support for the Strategic Plan and participation in control activities by all stakeholders will be critical to eradicate feral deer. Program managers will need to engage stakeholders on issues related to feral and domestic deer, raise awareness of their agricultural, environmental, social, cultural and biosecurity risks, effective control, and seek ways to work with communities, landscape boards and other state and Australian Government agencies to coordinate control programs.

ACTION

1.1 Increase community awareness of the impacts of feral deer, legal requirements to control deer and the importance of reporting sightings.

ACTIVITY

- Develop and disseminate targeted extension and communication materials to:
 - Raise awareness of feral deer environmental, economic, social, and cultural impacts across the South Australian public.
 - Maintain social licence to manage the impacts of feral deer, particularly in peri-urban and urban areas.
 - Raise awareness of feral deer control options and the need to act early.
 - Educate landholders on the requirement to destroy feral deer on their properties, and on the importance of removing female deer.
 - Educate landholders and regional communities on the importance of reporting escaped/released deer to their local landscape board.
 - Encourage reporting of feral deer sightings in areas where low numbers of feral deer are expected, including where control programs have reduced densities of feral deer.
 - Educate practitioners including commercial harvesters, professional and volunteer shooters that current opportunities to shoot feral deer in South Australia are for the purposes of eradication, not to sustain hunting activities, and that multiple tools will be used to achieve eradication.

1.2 Promote feral deer eradication.

- Develop partnerships between industry, major public landholders, regional landscape boards, Department of Environment and Water and the Department of Primary Industries and Regions, to ensure that management is coordinated across all land tenures and all properties.
- Increase landholder (participation in and contribution to coordinated culling programs on all properties in a program area.

1.3 Increasing landholder capacity to control feral deer.

- Ensure consistency in best practice tools and approaches for managing feral deer.
- Regularly update safe operating procedures, manuals and planning guides.
- Ensure that best practice considers animal welfare and impacts on both feral deer and non-target wildlife.
- Provide information, training, and resources to landholders to undertake best practice feral deer control.
- Educate landholders about commercial harvesting and connect them with commercial harvesters.
- Identify options for accreditation of landholders to become commercial harvesters in areas with high numbers of feral deer.

1.4 Communicate biosecurity risks and support preparation and response work for livestock diseases spread by feral deer.

- Develop relationships between biosecurity policy makers, practitioners, and regional landscape boards to establish and communicate risks posed by feral deer in the event of disease outbreak (i.e., foot-and-mouth, lumpy skin disease).
- Emergency control of feral deer in the event of disease outbreak to minimise impacts on livestock producers.

A photograph of a spotted fallow doe standing in a natural, brushy environment. The deer is the central focus, looking directly at the camera. It has a light brown coat with numerous white spots. The background is filled with green ferns and other vegetation, with some tree trunks visible. The lighting is bright, suggesting a sunny day.

Goal 2

Eradication of feral deer from South Australia in 10 years.

Photo of a Fallow doe by G MacKenzie

South Australian feral deer populations are at a critical point. With an increase in effective and sustained control programs, there is an opportunity to eradicate feral deer from the landscape and prevent populations from reaching the much larger numbers seen in the eastern states. If this opportunity is not taken, and control programs are maintained at business-as-usual levels, feral deer could number over 208,000 within 10 years.

Eradication of feral deer will require coordination and collaboration throughout South Australia. Aerial culling (supported by thermal technology) is the most effective control tools for feral deer and will be required to achieve rapid knock-down of populations, particularly in the first three to five years of the eradication program.

ACTION

2.1 Coordinate landscape scale feral deer culling.

ACTIVITY

- Support landscape boards to develop regional feral deer eradication plans.
 - Train landholders and program leaders in best practice control techniques for feral deer and ensure current best practice tools and approaches for managing feral deer are consistent and updated.
 - Report on the effectiveness of feral deer control to funding bodies.
-

2.2 Implement aerial shooting programs.

- Work with landholders to promote the benefits of aerial culling as a control tool and obtain permission to carry out aerial culling operations on public and private land.
 - Increase aerial control programs with thermal assisted aerial culling, alongside traditional aerial culling, implemented across public parks and reserves and private land.
 - A 60-65% reduction in population of feral deer is required each year for the first two years of the program to achieve eradication within 10 years.
 - Review best practice and trial new technologies as they become available.
-

2.3 Implement ground culling programs.

- Engage professional contractors or specialist staff to undertake coordinated ground culling and/or commercial harvesting to complement aerial culling operations, where there are small numbers of feral deer, or in peri-urban areas where aerial shooting is not feasible, permitted or cost effective.
 - Review best practice and trial new technologies as they become available.
-

2.4 Develop and adopt new cost-effective control tools and strategies to improve efficiency and effectiveness of control programs.

- Identify research, development, and extension opportunities to improve best practice feral deer management.
 - Develop and trial new bait(s) and delivery mechanisms for the control of feral deer and seek registration of bait through Australian Pesticides and Veterinary Medicines Authority.
-

2.5 Implement surveillance programs to identify areas for priority deer control.

- Promote community led surveillance to identify areas for priority deer control.
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Goal 3

Prevent the harbouring of feral deer, and illegal release or escape of farmed deer through regulation, and enforcement of best practice fencing and tagging standards.

Some landholders harbour feral deer as a resource for hunting. These properties undermine programs to eradicate feral deer.

Once eradication is achieved, the most likely pathway for re-invasion comes from illegal releases. Prevention and early intervention are often the most practical and cost-effective long-term pest control management options. Preventing the illegal release or escape of farmed deer means that feral populations are not regularly supplemented.

More than 100 properties are registered to keep farmed deer in South Australia. Most deer farmers are exemplary at ensuring their valuable domestic deer remain within their enclosures. Management of any deer farms, which are not adequately confining their deer, will be important to reduce feral deer populations.

ACTION

3.1 Ensure landholders comply with requirements to destroy feral deer.

ACTIVITY

- Develop a consistent approach throughout the state for achieving compliance with the requirement to destroy feral deer.
- Identify properties for compliance and enforcement work in collaboration with regional landscape boards.
- Undertake targeted compliance and enforcement activities.
- Review policy to consider mandatory reporting of feral deer sightings.

3.2 Ensure deer keepers comply with requirement to contain deer.

- Develop a consistent approach to obtaining voluntary compliance with fencing and tagging requirements, and for carrying out follow up enforcement activities.
- Conduct deer farm inspections at least every two years, and more often if required.
- Develop processes for achieving compliance with the *Landscape South Australia Act 2019* as it relates to deer, with reference to:
 - Landscape Act Compliance and Enforcement Framework
 - Declared Animal Policy – Feral Deer
 - Livestock Regulations 2003

3.3 Ensure deer keepers comply with requirement to tag deer.

- Train authorised officers to undertake deer farm inspections and rectify breaches.
- Distribute information on landholder requirements via regional landscape boards and Department of Primary Industries and Regions website.

3.4 Enforce fencing and tagging requirements for farmed deer.

- Regulate fencing and tagging standards for deer farms.
- Pursue compliance with fencing and tagging requirements via appropriate formal enforcement action where necessary.



Figure 9: This fallow deer escaped from a farm and was only found and controlled a year later. Due to the presence of a unique ear tag, it was able to be linked back to the property from which it escaped.

Limestone Coast – Feral deer compliance

The Limestone Coast Landscape Board is implementing a feral deer action plan to reduce the impacts of feral deer across the region and with a substantial amount of support available for landholders to participate in coordinated, professional aerial and ground shooting control programs.

The Landscapes South Australia Act 2019 provides a suite of legislative mechanisms to support compliance and enforcement activities in the implementation of the Strategic Plan in instances when education and engagement fails in changing landholder behaviour or improving management practices.

Ensuring all deer farms have domestic deer contained within maintained fencing and all animals are identified by an ear tag is important to prevent un-tagged, farmed deer escaping into the feral deer population. Intelligence gathering indicates some landholders provide refuge and harbour feral deer on their properties, which act as a source population that breed and disperse. Compliance tools may be needed to enforce the removal of source populations.

Implementation Plan

Implementation of the Strategic Plan will be led by the Department of Primary Industries and Regions, regional landscape boards, and the Department of Environment and Water, as well as primary industry groups.

The Implementation Plan will provide a commitment from stakeholders to achieve collaborative and effective implementation, evaluation and review of the Strategic Plan. The Implementation Plan will provide an overarching framework for the state and will be informed by regional landscape board deer control plans and/or pest animal strategies.

The Implementation Plan will be reviewed annually over the 10-year lifespan of the program.

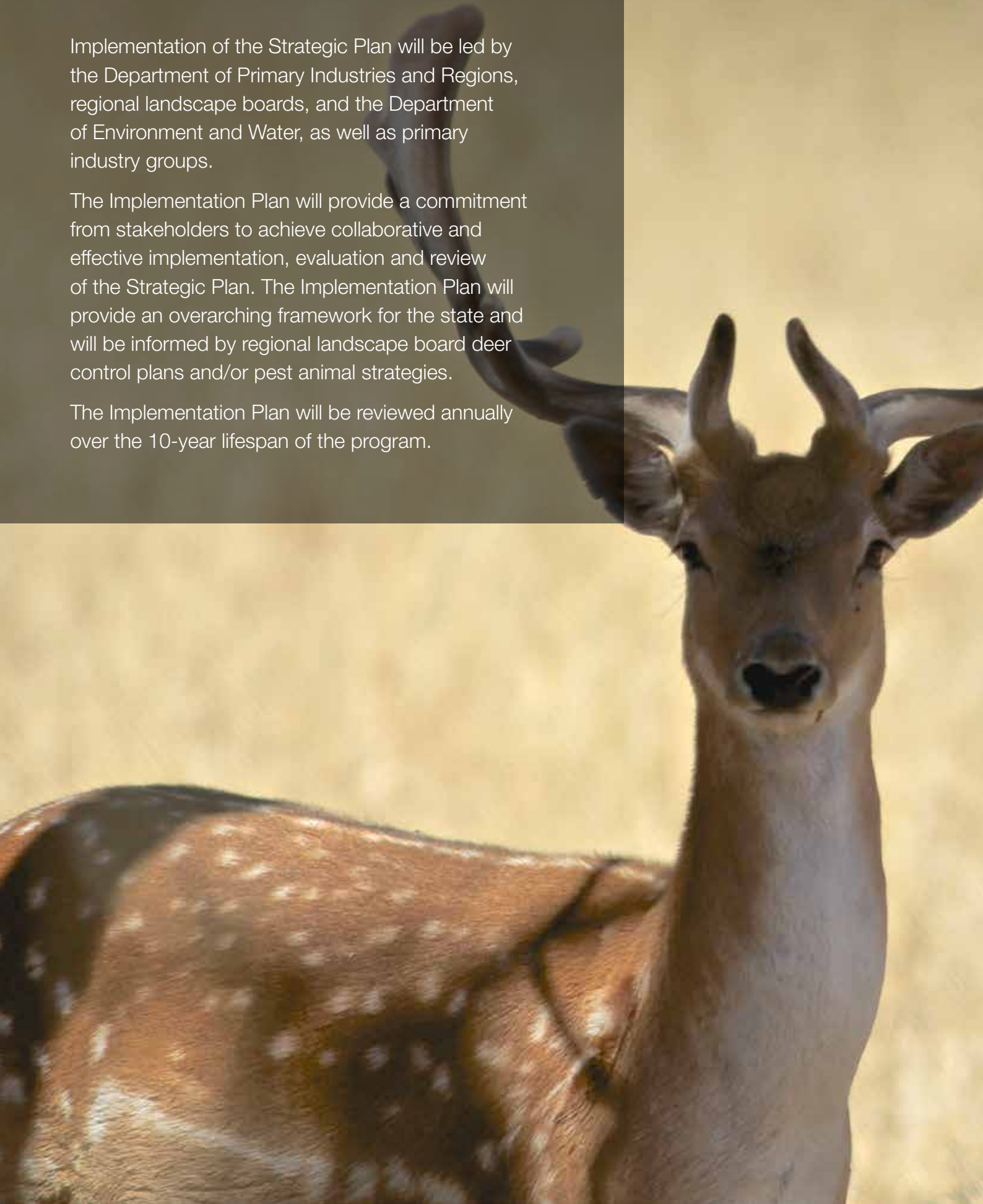




Figure 7: A fallow deer feeding from a deer aggregator in the Adelaide Hills.



Figure 8: Native wildlife being excluded from the deer aggregator: a wombat unable to access the feeder (top) and a swamp wallaby triggering the door of the feeder to close.

Research, development, and extension – Deer aggregator trials

The deer aggregator is a new tool being trialled by the Department of Primary Industries and Regions, in partnership with Department for Environment and Water, and regional landscape boards and funded by the Centre for Invasive Species Solutions. The purpose of the device is to attract deer to one location to improve the efficiency of shooting and trapping control programs. The device may also assist in the future deployment of toxic bait.

The aggregator excludes non-target animals from feed by exploiting differences in the size and shape of the feet of native herbivores (kangaroos and wallabies), while making it accessible to feral deer.



Figure 13: A chiller full of deer carcasses after a night of commercial harvesting.

Coordinated commercial harvesting

During 2019, a group of 30 Limestone Coast farmers and a group of 50 Mid North grape growers and landholders trialed the use of a commercial harvester to cull feral deer. The farmers engaged with the harvester to plan culling programs and biosecurity protocols. About 1,500 feral deer have been removed from private land using the commercial harvester.

The farmers now coordinate their own control activities by direct communication with the harvester. Funding from the landscape boards subsidises community-driven coordinated ground control programs.

The program has strengthened ownership of feral deer control, improved community cohesion and landowner capacity to manage foxes and rabbits.



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