



Managing introduced wild animals

2024-25 Annual Operational Report: Wild Deer Management in Ruahine Forest Park



Department of
Conservation
Te Papa Atawhai

**Te Kāwanatanga
o Aotearoa**
New Zealand Government

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Introduction

This annual report summarises progress against the 2024–25 Annual Operational Plan¹ for wild deer management in Ruahine Forest Park. It is the first annual report produced as part of a longer-term process to develop a new adaptive wild deer management plan for the park.

The annual report is a key part of the adaptive management cycle—enabling us to reflect on what has been achieved, learn from our actions, and adapt our approach for greater effectiveness over time.

Each Annual Operational Plan focuses on four key areas:

- Engagement
- Planning
- Deer management
- Monitoring and reporting

This report covers interim actions under each of these areas, agreed for 2024–25, and describes progress towards creating a comprehensive Ruahine Forest Park Wild Deer Management Plan.

In 2024, we began revising the deer management plan for Ruahine Forest Park, as required by the Wellington Conservation Management Strategy (CMS) 2019. The plan aims to address the increasing impact of wild deer on the park’s natural values. It builds on earlier work by the Deer Working Group (active until 2019), supports the Aotearoa New Zealand Biodiversity Strategy, and reflects the shared values and aspirations of iwi, hapū, and the Ruahine community.

We are working in partnership with iwi and hapū, and engaging with the wider community, to ensure the plan is shaped by mātauranga Māori, science, and local perspectives. Our *Always Be Naturing* programme is designed to encourage just this — everyone doing their part. Nature needs help, and we all have a role to play. The plan will set out a five-year strategy for joint action, with progress reviewed and reported annually.

Key achievements in 2024-25

- Engaged with Treaty Partners and community groups on the wild deer management plan.
- Set up the Ruahine Deer Advisory Group (DAG), with broad agreement to reduce wild deer numbers.
- Completed an interim wild deer management plan and carried out three trial management actions removing 951 wild deer.
- Began drafting the final wild deer management plan and completed the 2025-26 Annual Operational Plan.

2024-25 Annual Operational Report Summary

Engagement

From early 2024, our focus was on outlining the need for a wild deer management plan and discussing the process with key stakeholders and our Treaty Partners. We met with the Wellington Conservation Board, the Ruahine Users Group, and iwi representatives. Iwi perspectives have helped shape the direction of the plan through mātauranga Māori, and consideration of iwi values, and aspirations for Ruahine Forest Park. Building on these foundations and maintaining a genuine Treaty partnership with Ruahine iwi and hapū is essential for the long-term success of the plan.

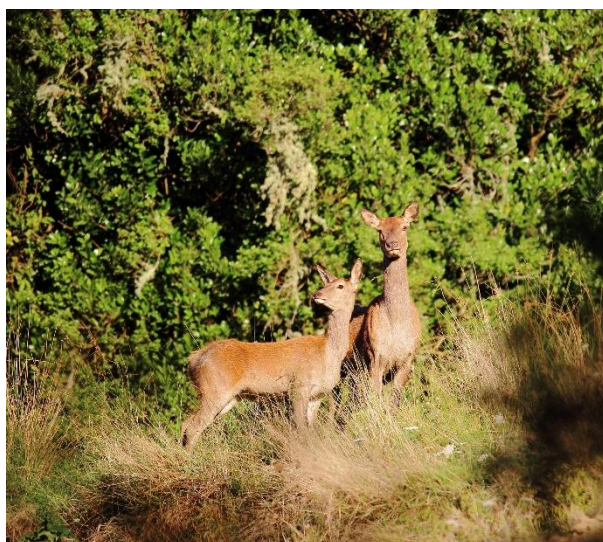


Photo: Wild deer. Credit: © John Neilsen.

¹ 2024-25 Annual Operational Plan (DOC webpage link)

To support the development and implementation of a wild deer management in Ruahine Forest Park, we established the DAG in 2024. This group brings together a wide range of interests, including iwi, commercial and recreational hunters, farmers, environmental, and community groups. The DAG held its first meeting in December 2024, where it agreed on a Terms of Reference outlining its purpose, role, and membership. The current membership of the DAG, as of September 2025, is listed in Appendix 1.

Planning

A draft interim wild deer management plan, including the 2024–25 Annual Operational Plan, was agreed with the DAG. Three management actions were agreed for delivery by June 2025.

Deer management

Three trial management actions were completed in 2024-25. In total, 951 wild deer were removed.

- 1. DOC aerial management:** We carried out aerial hunting in the remote and hard to access North-West Management Unit (MU) - an area of 16,000 hectares. Fifteen aerial hunting runs were completed in 2024/25, by two local helicopter operators. 727 wild deer were removed. This work also complements possum and rat control being carried out in the Northern Ruahine's high priority ecosystem unit, an area which contains a rich and diverse range of habitats and species.
- 2. New Zealand Deerstalkers Association (NZDA) hunt:** We worked with Lower North Island Branches to make it easier for hunters to fly by helicopter into the Western/Central area of Ruahine Forest Park. The hunt took place on 14-17 March 2025. 81 deer were removed. Hunters targeted hinds and provided us with GPS data showing where they travelled and where they successfully removed animals.
- 3. Industry/Wild Animal Recovery Operators (WARO) incentivisation:** We contracted the commercial venison industry to harvest 300 deer, operating under normal WARO permit conditions. We set out to test if we could increase the ability of the commercial sector to contribute more to wild animal management in Ruahine. A contract was set using a weight range to target lower weight

deer that are normally less attractive to commercial industry. Operators harvested 143 wild deer in the first month of the WARO season—an increase compared to the total harvest in previous years.

Together, these three actions are a step towards reducing wild deer numbers in Ruahine Forest Park. Detailed results are in Appendix 2. We plan to repeat these actions in 2025–26 with some refinements. We'll keep working with the community to assess what's working and improve our approach to deer management.

Monitoring and reporting

In 2023, we monitored the abundance and impact of introduced wild animals and published the findings in 2024.² [The report is available on our website.](#) The data shows wild animals are having a significant negative impact – there are few tall, palatable seedlings in the park and high faecal pellet counts compared to national averages—indicating high wild deer abundance.

The report provides our most up-to-date baseline on wild deer impacts across the park. It highlights the need for a robust, science-based monitoring framework, which we will develop in 2025–26 to guide long-term management decisions.

Next steps for 2025-26

We will complete the Ruahine Forest Park Wild Deer Adaptive Management Plan and submit it to the Wellington Conservation Board for approval. Building on the current year's work, we'll prepare the 2025–26 operational plan to guide next steps.

Management actions will continue with refinements. We'll support and extend the NZDA management hunt, maintain the meat industry contract with a target of 500 deer, and carry out 50 hours of DOC-led aerial hunting focused on the northwest management unit.

To support long-term decision-making, we'll design a monitoring framework that works at both the park-wide and management unit scale. We'll also continue to engage with iwi and the wider community to ensure the approach remains collaborative and effective.

² [Wild animal monitoring - Ruahine Forest Park](#) DOC Report 2025

2024-25 Progress Report

Area	Action	Who	When	Progress
Engagement	Maintain and build relationships with Iwi/hapū to enable incorporation of Te Ao Māori concepts and storytelling	Iwi & DOC	Ongoing	We held hui/meetings, visited sites in Ruahine Forest Park, and worked together on exploring actions to capture in Annual Operational Plans.
	Establish a community forum (Deer Advisory Group) to provide input into planning and monitoring	DOC	December 2024	Set up in December 2024, finalised Terms of Reference, held hui/meetings, agreed an interim/draft plan including actions for 2024/25. Feedback sought on the draft plan from the DAG.
	Identify barriers to recreational and commercial hunting sectors from contributing to management that benefits conservation outcomes	DOC & Deer Advisory Group	June 2025	DOC and Herenga ā Nuku Aotearoa the Outdoor Access Commission are working to address access barriers to Ruahine Forest Park. This work goes beyond recreational hunter access and includes wider public use. Access points to improve are: Mokai, Kawhatau, Purity/Kelly Knights, Makaretu, Mid Pohangina. In 2025-26, the DAG needs to review this action, define the scope, decide who will lead it, and set measurable outcomes.
	Identify potential issues around wild deer management and cross tenure impacts for surrounding landowners and rural communities	DOC & Deer Advisory Group	June 2025	Limited engagement with landowners and rural communities took place this year. Build on engagement with Regional Councils, adjoining landowners and catchment groups in 2025-26 year.
Planning	Define ecological and biodiversity values and set SMART objectives for management units	DOC	June 2025	Objectives were drafted as part of the wild deer management plan. Management Units were initially set in 2019. DOC to review and revise (if needed) according to current operational context in 2025-26.
	Define management zones and coordination plan for hunting effort and associated monitoring	DOC	June 2025	DOC carried out trial actions in different areas of Ruahine Forest Park. Learnings from these actions, will be considered alongside ecological SMART objectives in 2025-26 to refine the coordination of hunting actions.

Implementing deer management	Enable a recreational hunter-led management hunt and explore ways hunters can contribute	NZDA, GAC, & DOC	June 2025	Completed in March 2025 with a report from NZDA. Detailed results can be found in Appendix 2. We will repeat in 2025-26, applying any lessons.
	Develop a system or survey to get feedback on the recreational hunting experience	NZDA, GAC, & DOC	June 2025	No progress. Action to be reviewed in 2025-26.
	Design and implement a wild meat processor incentivisation trial to assess ways to improve effectiveness of commercial sector	DOC & Venison Processors	July 2025	Completed, details can be found in Appendix 2. We will repeat in 2025-26, applying any lessons.
	Design and implement DOC-led aerial and ground hunting operations at priority sites	DOC	July 2025	Completed, details can be found in Appendix 2. We will repeat in 2025-26, applying any lessons.
Monitoring & reporting	Collate and analyse kill and track log data from hunting activities	DOC Wild Animals Team	July 2025	Kill and track log data was collected from all actions. Analysis and summary data included in 2024-25 annual report.
	Analyse and report on monitoring of browse impact to assess efficacy of actions	DOC Monitoring Team	December 2025	Wild animal monitoring report completed and presented to DAG in March 2025. The report is available on the DOC website: Wild animal monitoring - Ruahine Forest Park
	Scope development of monitoring plan for Park	DOC Monitoring Team	July 2025	Build on monitoring baseline provided by report above and develop a full monitoring framework design in 2025/26.
	Produce annual report for 2024-25	DOC & Deer Advisory Group	July 2025	Complete
	Develop annual operation plan for 2025-26	DOC & Deer Advisory Group	April 2025	In progress.

Appendix 1. Ruahine Deer Advisory Group Membership September 2025

Name	Affiliate	Notes
Tama Wipaki	Iwi	Ngāi te Ohuake & Ngāti Hauiti(Mōkai Pātea) Mauri Oho
Ross Browne	Wellington Conservation Board	
Kaylyn Pinney	Game Animal Council	
Gordon George	Lower North Island Red Deer Foundation	Affiliated with NZDA also
Gwyn Thurlow	NZDA	CEO
Callum Sheridan	NZDA	National President
Trevor Gratton	NZDA	Hutt Valley NZDA
Janet Wilson	Ruahine Environmental Group	Also Ruahine User Group: RUG
Raniera Hauiti	Iwi	Rangitane o Tamaki Nui a Rua Mauri Oho
Emma Gregg	FMC	Main contact for FMC
Amelia Geary	Forest and Bird	
Phil Holland	Federated Farmers	

Levi Walford	Iwi	Tamatea Pokai Whenua
Rod Smillie	Ruahine Environmental Group	Also RUG
Terry Hapi	Iwi	Rangitane o Manawatu
Paul Horton	Iwi	Rangitane o Manawatu
James Kendrick	Iwi	Ngati Kahungunu ki Tamaki Nui a Rua
Scott Gordon	Iwi	Ngati Kahungunu ki Tamaki Nui a Rua
Kahurangi Hapi-Tangaroa	Iwi	Pou Taiao Rangitāne o Manawatū Settlement Trust
Chris McIntyre	Industry/WARO	Ruahine Helicopters
Garry Moar	Industry/WARO	Ruahine Helicopters

Appendix 2. Deer management results

Overview

In 2024–25, three coordinated management actions removed 951 wild deer from Ruahine Forest Park. These actions tested different delivery models—DOC-led aerial control, industry/WARO incentivisation, and NZDA-led management hunts. Each approach had distinct objectives, costs, and benefits.

Summary Table: Deer Management Actions

Action	Deer Removed	Cost to DOC	Cost per Deer to DOC	Key Features
DOC-led aerial control	727	\$112,010	\$154	High removal rate, targeted ecological areas
Industry/WARO contract	143	\$12,749	\$87	Efficient harvest, broad area, limited by WARO rules
NZDA management hunt	81	\$5,000*	\$62*	Strong community engagement, weather-dependent
Total	951	—	—	Mixed-method approach

*NZDA hunt total operational cost was \$21,500 (including hunter contributions). DOC contribution was \$5,000.

Key Insights

Data from each action builds our knowledge of future management direction. Data suggests that:

- **DOC led aerial control** provides benefits of being able to target deer at priority sites. It also can remove the most deer, in the quickest time. Limitations to this approach is that this level of control is the most expensive and is contingent on reliable DOC funding.
- **Meat industry contract** can stimulate a cost-effective way of removing more deer. The limitations of this method are that it works where deer numbers are high enough to warrant commercial activity and it is spread across a wide area. It is also constrained by WARO permit conditions.
- **Management hunts** can provide a benefit of low-cost removal of deer and have a high level of social engagement with the recreational hunter community. A limitation is that this method removes a relatively low number of deer across a wide area. Constraints also include weather conditions and ability to plan for this with volunteers.

Conclusion

Ruahine Forest Park benefits from this mixed method approach, that leverages the complementary strengths of the three different models tested in the 2024/25 year. This collaborative approach aligns with our *Always Be Naturing* programme, which is designed to encourage collective action for nature. Nature needs help, and we all have a role to play.

Tables below give more analysis of the management actions undertaken in 2024/25.

Table 2: Comparative analysis of all three management actions

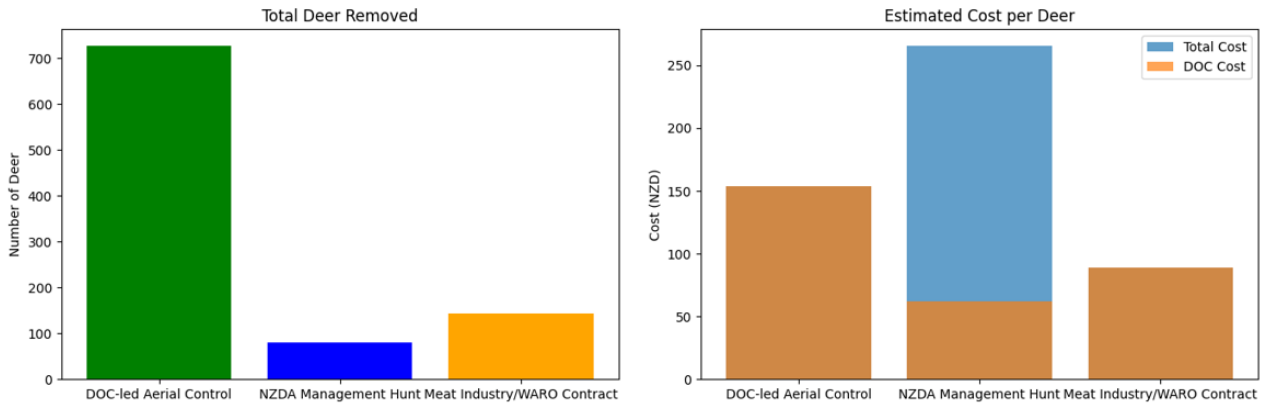


Table 3: Detailed breakdown of comparative metrics

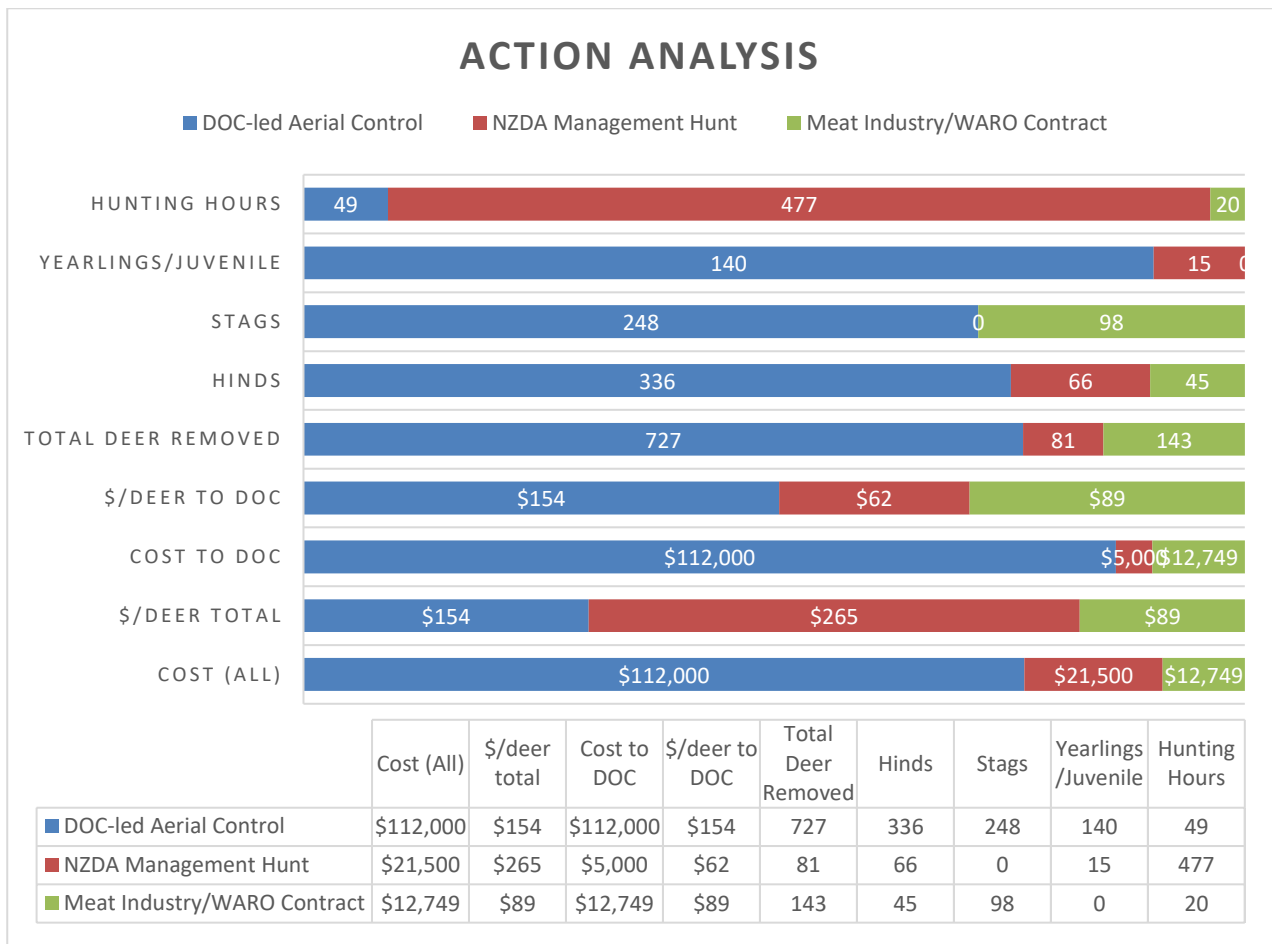


Figure 1. Indicative waypoint locations of deer kills across Ruahine Forest Park for all three management actions.

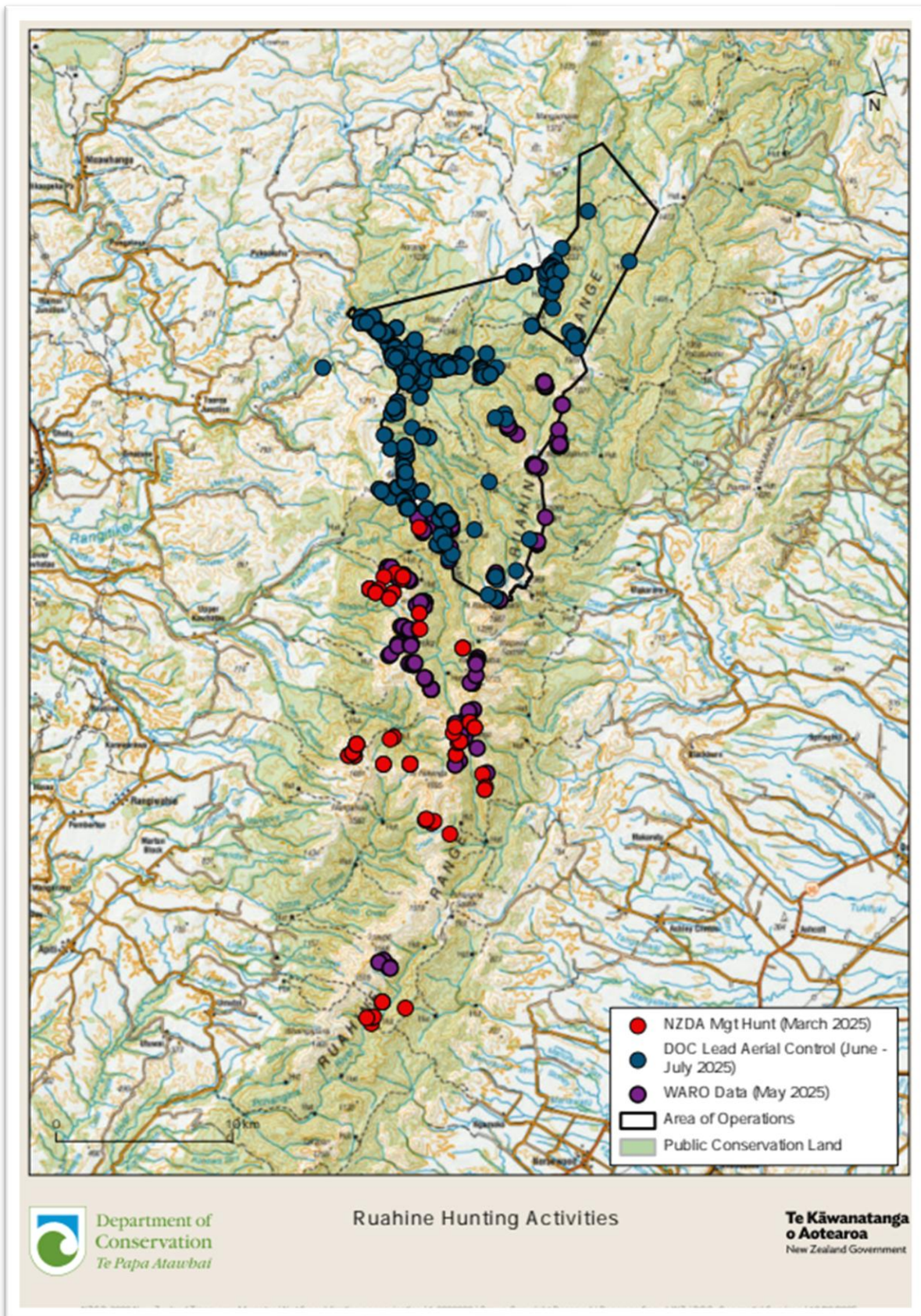


Table 4. Deer management activities analysis - detail

Action	Deer removed	Hinds	Yearlings/ juvenile	Stags	Resource/cost
<p>NZDA Management Hunt</p> <p>Organised by NZDA, March 2025 31 hunters flown to 11 locations over 4 days Weather restrictions impacted access Full post-hunt report provided by NZDA Ferry cost (helicopter to/from staging location) covered by DOC Flights from staging point to hunting locations covered by NZDA/hunters</p>	81	66	15	X	<p>31 hunters over 4 days (volunteer/recreation hunter led) Estimated total hunter hours: 682 Adjusted for 30% weather restrictions: 477 hours = 59.6 hunter days.</p> <p>Cost:</p> <ul style="list-style-type: none"> \$21,500 (total cost) \$265/deer <p>Note: The cost per deer for the NZDA management hunt (\$265/deer) reflects the total operational costs; these are important to understand the activity and its benefit and potential limitations. Also important to consider is that the bulk of the cost was covered by NZDA and participating hunters, so this figure doesn't reflect the actual taxpayer contribution (or direct cost to DOC); that cost was \$61.73/deer.</p>
<p>Meat industry/WARO contract Contract direct with local meat processor.</p> <p>WARO harvest completed early May, over 4 runs</p> <ul style="list-style-type: none"> Target of 300 deer likely achievable without interruption Average harvest carcass weight: 37.63 kg 	143	45	X	98	<p>Meat processor/WARO operation</p> <ul style="list-style-type: none"> 20 hours flying 7.2 deer/hour recovered Based on incentive and weight criteria: <ul style="list-style-type: none"> Stags <41kg, hinds <44kg qualified Cost: \$12,749 (direct contract cost to DOC) \$87/deer
<p>DOC led aerial control</p> <p>Two local helicopter operators shared flight hours equally</p> <ul style="list-style-type: none"> Operational area expanded due to increased flight time 	727	336	140	248	<p>Contract aerial operation: 48.7 hrs flying @ \$2,300/hr. Catch per unit effort (CPUE) 14.9 deer/hour - not recovered.</p> <ul style="list-style-type: none"> Cost: \$112,010 (direct contract cost to DOC) \$154/deer

and alignment with NPCP boundaries

- 15 runs completed
- No significant reduction in deer removed across the operation per hunting hour

TOTAL

951



Photo: DOC and representatives from local iwi on a site visit. Credit: © DOC.

DOC aerial management results

We carried out aerial wild deer management in the northwest corner of Ruahine Forest Park, removing 727 deer.

This work occurred in the same location as a National Predator Control Programme (NPCP) aerial 1080 operation targeting rats, possums, and mustelids, adding extra conservation benefit at this high-value site. It was the first DOC-led deer control in the park in decades. Conventional aerial “control without recovery” methods were used, allowing comparison with other approaches.

An average of 14.9 deer/hr were controlled over 15 runs completed.

Figure 3. GPS locations of deer kills for DOC aerial operation



Key takeaways:

This operation removed the most deer in the shortest time and from the smallest area, indicating focussed DOC-led aerial control is highly effective for reducing deer numbers.

- It was also the most expensive method and depends on DOC funding being maintained.
- Deer removal rates stayed steady (deer per hour), suggesting deer numbers remain high.
- High deer numbers in the northwest management unit may indicate similar levels across the park, raising questions about whether more resources and a broader approach are needed.
- Dense vegetation limited aerial hunting to more open areas.
- Deer moved between public and private land, highlighting the need for stronger collaboration with landowners.
- Using local helicopter operators worked well, with their knowledge adding flexibility and efficiency.

NZDA management hunt results

In March 2025, NZDA organised a four-day management hunt. Thirty-one hunters were flown to 11 sites in the central park, focusing on hinds. The hunt removed 81 deer. NZDA provided a full post-hunt report.

Figure 5. GPS locations of deer kills for NZDA management hunt



Key takeaways:

- This hunt removed the fewest deer of the three methods and covered a large area. This suggests management hunts by itself are not the best option for reducing deer numbers when populations are high.
- However, it had the lowest cost to the taxpayer, showing that management hunts can be a cost-effective part of a combined approach.
- The overall cost per deer was the highest of all methods because most costs were covered by hunters themselves. This shows their strong commitment, but it also means the method could be less reliable if volunteer hunters' ability to contribute, changes (e.g. during tough economic times).
- Poor weather reduced hunting time, showing the challenge of planning hunts in advance.
- NZDA members showed strong support and commitment to deer management in Ruahine Forest Park.
- The hunt delivered strong social value by building trust, strengthening relationships with the hunting community, and demonstrating shared responsibility for conservation outcomes.
- Better data collection (e.g. GPS kill points) is needed to improve analysis after hunts.
- Effort was spread across 11 sites and several management units, making it harder to measure effectiveness in any one area.
- The hunt relied heavily on volunteer time and effort from NZDA members for planning and delivery.
- Positive media coverage, e.g. Farmers Weekly article: [Ruahine hunt thins red deer population by 80 hinds](#).



Photo: NZDA members on a management hunt. Credit: © NZDA.

Industry/Wild Animal Recovery Operators (WARO) incentivisation results

This action tested whether the commercial venison industry, with harvest delivered through WARO operators, could increase wild deer removal in Ruahine Forest Park. A contract model was developed to encourage the harvest of lighter-weight deer, which are typically less attractive to the commercial sector. The target was to remove 300 deer.

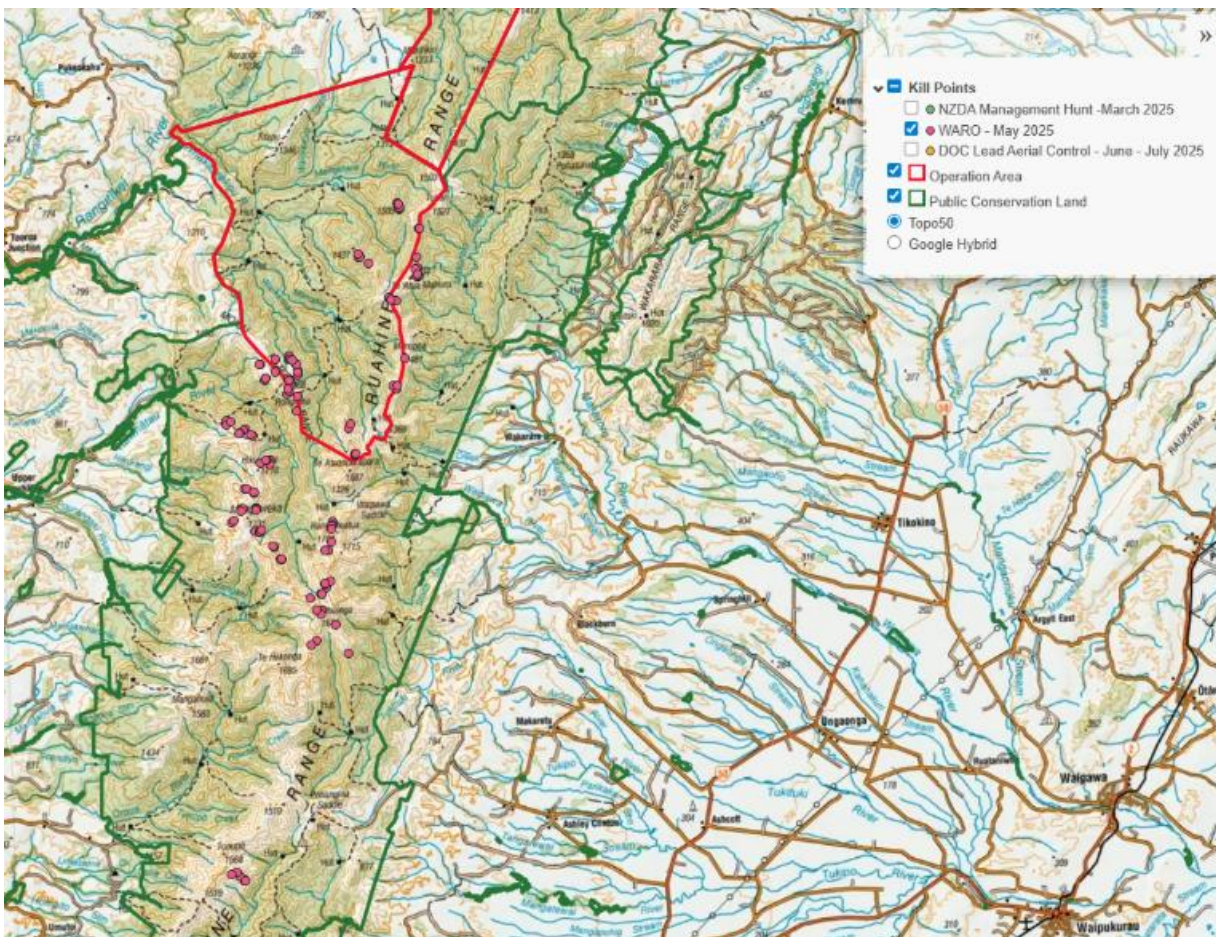
Operators removed 143 deer, with 99 of these falling within the target weight schedule, under terms of the contract and existing WARO permit conditions. An average carcase weight of 37.63kg was recorded for all deer removed.

The contract commenced after 1 May 2025 and was active for a short period before the National Predator Control Programme (NPCP) operation began in mid-May. The short operational window was the main constraint on achieving the full target.

Despite this, the 143 deer were removed efficiently over four runs, suggesting the 300-deer target was likely achievable with more time.

The removal of 143 deer compares to a total of 77 deer removed for the entire 2024 season (May 1 – November 31). Ruahine WARO operators confirm that their activity in 2025 would have remained at similar or even lower levels, without this contract.

Figure 6. GPS locations of deer kills for Industry/WARO contract



Key takeaways:

This method sat between DOC-led control and NZDA-led management hunt for deer removed, speed (deer per hour), and cost to the taxpayer.

- 143 deer were removed quickly; the contract model illustrated an ability to influence (increase) harvest.

- The 300-deer target was likely achievable if carried out over the full WARO season (1 May - 30 November).
- Commercial harvest appears to be an effective part of a combined approach, but it may not reduce deer numbers enough in specific high-priority areas compared to targeted DOC control.
- Testing this model over a full season will show whether it can shift harvest effort towards lighter deer and more hinds.
- The contract model was unique and complex but delivered a relatively low cost per deer.
- WARO permit conditions and 'no-fly' zones limit where operators can work; effort was spread across the park rather than focused on management units.
- No analysis was done on the economic benefits or flow-on effects to the commercial sector or food chain.



Photo: Ruahine Forest Park showing lack of understory plants. Credit: © DOC