

Department of Conservation Wild Animal Operational Research Plan 2026 to 2030



Department of
Conservation
Te Papa Atawhai



**New Zealand
Government**
Te Kāwanatanga
o Aotearoa

Cover: A DOC staff member monitors vegetation condition in Fiordland. Photo: *Department of Conservation*

Department of Conservation Wild Animal Operational Research Plan 2026 to 2030

This document is available at www.doc.govt.nz/nature/biodiversity/wild-animals-management/

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ISBN: 978-1-0670480-9-9 (online)

Published by:

Department of Conservation Te Papa Atawhai
PO Box 10420, Wellington 6140
New Zealand



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Purpose of this document

This plan sets out the wild animal operational research focus for the Department of Conservation Te Papa Atawhai (DOC) through to 2030, to deliver measurable biodiversity gains from wild animal management on public conservation land.

Wild animals are present across public and private land, and managing their impacts is a shared, cross-tenure responsibility. DOC leads the coordination between different organisations with an interest in how wild animals are managed across New Zealand.

At present, DOC carries out intensive management of wild animals on around 1.4 million hectares of public conservation land, to protect areas of high biodiversity value and prevent wild animals from spreading into unoccupied areas. However, across most public conservation land, current management is not yet sufficient to drive meaningful reductions in wild animal impacts.

Strengthening the evidence base is critical to improving outcomes for nature. This plan outlines the research DOC needs to do to gain the knowledge and tools to improve the efficiency and effectiveness of its wild animal management through to 2030. Research needs in this plan are captured in DOC's BioInvest system, helping direct investment to maximise biodiversity outcomes.

While the plan focuses on operational research, DOC recognises that effective wild animal management is not just technical, it involves competing values, stakeholder expectations and governance challenges. DOC also invests in complementary research, including social research. This helps us understand the perspectives, values and expectations of communities and stakeholders, for example, DOC's recent IPSOS FastFacts survey on wild animal management. Research by DOC, partners and the wider sector can provide valuable insights into the social context of wild animal management and help inform development of the National Introduced Wild Animal Management Framework. Together, ecological and social research provide a strong evidence base for effective wild animal management and long-term biodiversity outcomes.

The public expects DOC to deliver the best possible outcomes for nature and to safeguard the land, waters, ecosystems and cultural heritage it is responsible for. When wild animal management is underpinned by effective research, this leads to measurable improvements in forest health, native species recovery and ecosystem resilience.

Supporting wild animal research across the sector

The Wild Animal Management National Coordination Group worked with the Bioeconomy Science Institute in 2025 to identify and prioritise research questions spanning eradication, suppression, support for recreational hunting, support for commercial hunting, and populations without formal management intervention.¹

The Wild Animal Management National Coordination Group has a critical role in identifying sector-wide knowledge gaps and aligning effort, with DOC taking a leadership role and tracking progress.

The DOC wild animal research plan:

- supports coordinated, landscape-scale research
- enables clear roles across agencies and partners
- strengthens collaboration with iwi, researchers, industry and the hunting sector.

In many cases, research will require a coordinated, multi-partner approach, and in some instances, other organisations will lead delivery. This reflects the shared nature of the challenge and need for collective action across the system.

¹ Whitehead A, Warburton B, Whitehead J. 2026. Research priorities for wild ungulates in New Zealand. Prepared for the Department of Conservation. Wellington: New Zealand Institute for Bioeconomy Science Limited. Contract Report 2526-0105.

Structure of this document

The plan is structured into two **research themes**:

- distribution and population estimates
- monitoring impacts and outcomes.

Priority operational research needs are listed for each research theme and are not in any particular order. The information provided for each research need includes the following:

- **target species** for the research (deer, chamois, goats, pigs, tahr)
- **management objectives** that each research need will contribute to most significantly:
 - eradication
 - suppression to low levels, to protect rare and vulnerable ecosystems and species
 - threats-led suppression, to prevent transformational change on a landscape level
 - containment and exclusion to prevent range expansion
- **expected completion date** of the research project.

How this plan was developed

A small project team of DOC science and technical advisors developed the plan and undertook a gap analysis of the current state of knowledge regarding wild animal operational management. This was informed by the Bioeconomy Science Institute research priorities report and previous DOC assessments.

An internal working group independently reviewed the gap analysis and provided feedback on the research needs and suggested improvements. The working group held a prioritisation workshop in July and evaluated research needs across three themes:

- distribution and population estimates
- monitoring impacts and outcomes
- control tools and methods.

Research needs were independently ranked by participants using three criteria and supporting guidance:

- Strategic alignment (Is the research relevant to DOC objectives for wild animal management?)
- Criticality (How critical is this research to near-term management?)
- Feasibility (Can we realistically undertake this research now?)

Individual rankings were summed to provide an overall score for strategic alignment and criticality and an overall score for feasibility. The group discussed and provided advice to the project team on the overall scores during the workshop.

The project team led the final stages of developing the research plan with input from the working group and engagement with the National Coordination Group.

This plan contains the research needs that were prioritised through this process. The remaining research needs that were evaluated but not prioritised are captured in the Appendix 'Department of Conservation Wild Animal Operational Research Plan 2026–2030: Research needs not included in the Wild Animal Operational Research Plan'. The outcome of the prioritisation was that all research needs related to control methods and tools are listed in that appendix.

Priority research needs

Distribution and population estimates

While we understand much about wild animal ecology in New Zealand, important knowledge gaps remain in our understanding of species' spatial ecology and habitat use. The tools and methodologies used to reliably detect and measure populations across diverse landscapes also need to improve. The following research needs have been identified to address the main information gaps and support more effective, evidence-based species management.

1. Review and test tools for detection of wild animals at low densities

A comparison of the effectiveness of current detection methods and identification of knowledge gaps will help guide the development and testing of new approaches. Emerging technologies, such as acoustic monitoring, may offer opportunities to improve early detection and surveillance of low-density animal populations.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Deer	✓			✓
Goats	✓	✓	✓	✓
Tahr	✓	✓	✓	✓

To be completed by 2030.

2. Undertake deer home-range studies

Knowledge of deer movement patterns is critical for coordinating management between conservation, forestry, farming, iwi/Māori and other land managers, and will support more effective landscape-scale population management. This work will improve understanding of deer habitat use, seasonal movements and home-range dynamics across different land tenures and habitat types.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Deer	✓	✓	✓	✓

To be completed by 2030.

3. Review tools for measuring tahr populations

A contract is in place for a pilot study using fixed-wing aircraft to help count tahr. However, existing and previously used tools still need to be reviewed to provide more accurate population estimates. This is specifically relevant for tahr populations at low densities, so ties into research need 1 and may help with focused management of tahr outside the feral range.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Tahr	✓	✓	✓	✓

To be completed by 2028.

4. Improve knowledge of tahr habitat use and occupancy in forested areas

Improving our understanding of tahr occupancy and abundance in forests will enable us to assess their impacts on vegetation in the understorey. This links to research need 3, because little is known about numbers of tahr using forested areas, particularly on the West Coast.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Tahr	✓	✓	✓	✓

To be completed by 2030.

Monitoring impacts and outcomes

Significant gaps remain in some areas of our understanding of the full ecological impacts of wild animals in New Zealand. Further work is needed to review and build on existing knowledge of species-specific impacts, while also evaluating and improving the monitoring methods and tools used to measure those impacts. Addressing the priority research needs outlined below will strengthen evidence-based decision-making to support conservation outcomes.

5. Review current knowledge of chamois impacts using historic literature and any monitoring data

Current understanding of chamois impacts is largely based on research undertaken at least 25 years ago. Given changes in chamois distribution and abundance since that time, the existing literature, mātauranga Māori and available monitoring data need to be synthesised to assess the current state of knowledge. This review will identify important knowledge gaps and help prioritise future research and management investment.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Chamois		✓	✓	

To be completed by 2027.

6. Undertake vegetation monitoring to understand impacts of chamois on vegetation

Field-based vegetation monitoring at sites where chamois are the primary herbivore will be used to quantify the ecological impacts of high chamois abundance on alpine ecosystems. This work will build on the literature review of chamois impacts (research need 5) and provide evidence to assess whether observed impacts warrant further research and management intervention.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Chamois		✓	✓	✓

To be completed by 2030.

7. Literature review to understand pig impacts on flora and fauna within specific ecosystems and contexts

Published research on pig impacts on New Zealand flora and fauna is limited, and management priorities remain uncertain. A review is needed of the national and international literature on pig biology, behaviour and ecological impacts. Synthesising existing evidence will improve understanding of the contexts in which pigs have significant ecological impacts, identify important knowledge gaps, and inform future research and management decisions.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Pigs	✓	✓	✓	✓

To be completed by 2027.

8. Remote sensing tools for monitoring vegetation condition and browsing impacts

Monitoring wild animal impacts on vegetation structure and composition can be labour intensive and expensive to deliver. Emerging technologies, such as satellite imagery, LiDAR (Light Detection and Ranging) and advanced image analysis, offer opportunities to monitor vegetation condition and browsing impacts more efficiently and at greater scales. This research will explore if remote sensing tools can complement existing field-based monitoring and improve DOC's ability to assess deer and tahr impacts and management outcomes across large landscapes.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Deer		✓	✓	
Tahr		✓	✓	

To be completed by 2030.

9. Develop methods for monitoring outcomes of managing deer, chamois and tahr in non-forest environments

Monitoring the impacts of wild animals and the benefits of management in alpine ecosystems remains a significant challenge. DOC requires practical, cost-effective and scalable monitoring approaches to support its management of wild animals in other non-forest environments. A design process and review of current monitoring options will recommend methods for field testing. Following field testing, standards and guidance will be developed to enable the method to be implemented.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Deer		✓	✓	
Chamois		✓	✓	
Tahr		✓	✓	

To be completed by 2030.

10. Improve knowledge of dietary preferences to better understand and predict impacts of different deer species, goats and tahr

Improving understanding of the dietary preferences of deer and tahr will strengthen predictions of their ecological impacts. Current plant palatability classifications are largely based on studies of red deer and goats and may not accurately represent the feeding behaviour of other ungulate species, including sika deer and tahr. Improved knowledge of species-specific diet selection will support more accurate assessments of browsing pressure, vegetation impacts and management outcomes.

Target species	Management objective			
	Eradication	Suppression to low levels	Threats-led suppression	Containment & exclusion
Deer		✓	✓	
Goats		✓	✓	
Tahr		✓	✓	

To be completed by 2030.

Implementation

This plan is the foundation for DOC to undertake operational research to help deliver efficient and effective wild animal management. DOC's BioInvest system has been updated with new outcome plans to reflect the research needs in this plan. As projects are established, they will be delivered and reported through the DOC wild animals programme.

The research needs identified above are all at different stages of readiness for research delivery. While some needs are well scoped, with the research ready to start, others will benefit from the development of a supporting technical advisory group to help further refine and scope research before delivery can begin.

The National Coordination Group will provide a forum for DOC to align its research and collaborate with partners. DOC will lead in facilitating conversations and tracking progress against the sector's research priorities.² DOC's wild animal operational research plan supports this effort by clarifying respective roles and coordinating across agencies to make greater gains at the landscape scale.

² Whitehead A, Warburton B, Whitehead J. 2026. Research priorities for wild ungulates in New Zealand. Prepared for the Department of Conservation. Wellington: New Zealand Institute for Bioeconomy Science Limited. Contract Report 2526-0105.