

Managing introduced wild animals

# Ruahine Forest Park Adaptive Wild Deer Management Plan

2025-2030



Department of  
Conservation  
*Te Papa Atawhai*

**Te Kāwanatanga  
o Aotearoa**  
New Zealand Government

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## Foreword

Ruahine Forest Park is part of the central spine of Te Ika-a-Māui (the fish of Māui), which is the official Māori name for Aotearoa New Zealand's North Island. It provides clean water, food resources, recreation opportunities and enduring cultural connections for tangata whenua and local communities. However, these values are under increasing pressure. Wild deer have been present in the Ruahine Range for more than a century, and their impacts are now unsustainable. Browsing pressure is suppressing native plant regeneration and degrading ngahere (forests), waterways and taonga (treasured) species. Because the Ruahine Forest Park contains many headwater catchments, this damage also affects flood regulation, soil stability and erosion control – services that surrounding communities rely on. The Department of Conservation's (DOC's) previous approach to managing wild deer has not been sufficient. We need to act differently, and we need to act now.

This plan responds with urgency and sets out a practical, evidence-based pathway to halt and reverse forest decline. It gives effect to the direction in the *Wellington Conservation Management Strategy 2019* to reduce deer impacts and protect native ecosystems, species and cultural values. It also aligns with DOC's vision, 'Nature is thriving in Aotearoa | Te Oranga o te Ao Tūroa', and with regional priorities for the central spine of Te Ika-a-Māui and aquatic ecosystems. Together, these frameworks call for coordinated action at a landscape scale, guided by evidence and partnership.

Progress depends on working better together. Recreational hunting, commercial operations and DOC-led control all have a role. Decisions must be informed by monitoring and adapted as we learn. Collaboration must also cross boundaries, bringing together iwi, hunters, landowners, regional councils and local communities, because deer do not recognise property lines or tenure boundaries.

This plan has been developed in close partnership with Ruahine iwi. Their values and aspirations are embedded in its principles and priorities. The wellbeing of the ngahere and waterways is inseparable from cultural identity, whakapapa (genealogy), mauri (life force) and intergenerational responsibility. We acknowledge iwi leadership and reaffirm DOC's commitment to being an honourable Treaty partner and upholding the mana (prestige) and mauri of the park.

Rural landowners and the wider farming sector also have a strong stake in effective deer management. Deer move freely between public and private land, and their impacts extend beyond the park, affecting pastures, forestry, restoration efforts and productive farm systems. Coordinated cross-tenure management reduces pressures on farms, protects land values and supports resilient rural communities.

Hunting remains a valued and longstanding practice in the Ruahine. It provides food, strengthens social connection, supports wellbeing and enables people to contribute directly to conservation. Hunters bring local knowledge and play an important role in monitoring and stewardship. Managing for fewer deer, at levels the forest can sustain, supports healthier ecosystems and healthier deer, helping to maintain high-quality hunting opportunities into the future.

This plan calls for sustained collective action. It sets out a phased, adaptive approach to reducing deer impacts and supporting forest recovery. Guided by evidence, mātauranga Māori (Māori knowledge systems) and community insight, we can protect and restore the park's forests, waterways and biodiversity so this place continues to support cultural relationships, livelihoods and recreation for generations to come.

Now is the time to act together.



Alice Heather  
Director Regional Operations, Lower North Island

20 March 2026

## Executive summary

### Why a plan is needed

Long-term monitoring and community experience show that deer are a major contributor to declining forest health and biodiversity in Ruahine Forest Park. These impacts are no longer sustainable, prompting a strong desire among the Ruahine community to do better and do more. These effects also threaten the goal that the Department of Conservation Te Papa Atawhai (DOC) has of maintaining a thriving, resilient natural environment, as well as its wider strategic conservation outcomes. Therefore, a plan is needed to provide a collective, adaptive pathway to target deer management effectively and increase the long-term resilience of the park.

### Purpose of this plan

This plan outlines how DOC will work together with iwi, hunters and the community to reduce deer impacts in Ruahine Forest Park. It aims to protect native ecosystems, respect social and cultural values, and support hunting that contributes to deer management.

### What this plan will do

This plan will help DOC:

- reduce the negative impacts of wild deer to protect forest health and biodiversity
- coordinate hunting efforts – recreational, commercial and DOC-led
- work with iwi and the community to design actions that reflect shared values
- meet its legal and policy responsibilities
- use adaptive management – learning and adjusting as we go
- create yearly action plans to guide work and track progress
- raise awareness about deer impacts and the need for action.

### What success will look like

We will know that this plan has been successful if:

- forest health and biodiversity improve
- browsing impacts decrease
- iwi, hunters and the community stay involved and supportive
- progress is tracked and reported on each year
- actions remain inclusive, evidence based and responsive to ecological and cultural needs
- cultural health is monitored and strengthened.

### Policy and strategic alignment

This plan supports our commitment to *Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020*,<sup>1</sup> meets our obligations under the *Wellington Conservation Management Strategy 2019*<sup>2</sup> and takes direction from *Te Ara ki Mua: a framework for adaptive management of wild goats, deer, wild pigs, tahr, and chamois*.<sup>3</sup> While not legally binding, it aligns with our goals and adaptive management approach.

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<sup>1</sup> [doc.govt.nz/anzbs-2020](https://doc.govt.nz/anzbs-2020)

<sup>2</sup> Department of Conservation. 2019. Wellington Conservation Management Strategy 2019. Volume 1. Wellington: Department of Conservation. [doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf](https://doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf)

<sup>3</sup> Department of Conservation. 2022. Te ara ki mua: a framework for adaptive management of wild goats, deer, wild pigs, tahr, and chamois. Wellington: Department of Conservation. [doc.govt.nz/globalassets/documents/conservation/biodiversity/te-ara-ki-mua-framework.pdf](https://doc.govt.nz/globalassets/documents/conservation/biodiversity/te-ara-ki-mua-framework.pdf)

## Scope of this plan

This plan provides a 5-year framework (2025–2030) for managing wild deer in Ruahine Forest Park. It focuses on reducing ecological and cultural impacts through adaptive management, monitoring and collaboration. Actions apply to public conservation land managed by DOC. While the plan does not direct work on private or tangata whenua land, it encourages cross-boundary cooperation and shared learning. Annual operational plans will guide implementation, ensuring that priorities reflect iwi aspirations, community values and evidence-based decision making.



Exclosure plot in Ruahine Forest Park – vegetation behind the fence has not been impacted by introduced browsing animals like wild deer. *Photo: Department of Conservation*

## Vision, values and objectives

### Vision

**A healthy Ruahine Forest Park where wild deer are well managed, forests and native species and their habitats thrive, hunting contributes to management, and cultural and community values are respected.**

### Values

- **Kaitiakitanga** – acting as guardians of the land, water and wildlife.
- **Manaakitanga** – showing respect and kindness to people and nature.
- **Whanaungatanga** – building strong relationships and working together.
- **Intergenerational responsibility** – acting today to protect the ngahere (forest) for tomorrow.
- **Cultural recognition** – honouring Māori knowledge and spiritual connections to the land.
- **Biodiversity and ecological resilience** – protecting native plants and animals so that nature stays strong.
- **Sustainable use** – supporting hunting that is respectful and future focused.
- **Equity and inclusion** – ensuring that everyone’s voice is heard and valued.
- **Mauri and cultural wellbeing** – ensuring that the mauri (life force) of ngahere, wai (waterways) and taonga (treasured) species is upheld, and that cultural practices and connections can continue.

### Objectives

1. **Protect nature** – manage wild deer so that native plants and animals can thrive.
2. **Support Māori aspirations** – achieve both ecological and cultural outcomes, including iwi-defined indicators that reflect the health of the forest from a Māori perspective.

3. **Engage the community** – involve hunters, landowners and locals in decision making.
4. **Learn and improve** – use experience and monitoring to guide decision making over time.



Ruahine Forest Park. Photo: Department of Conservation

## Context

In 2024, the Department of Conservation Te Papa Atawhai (DOC) began developing a wild deer management plan for Ruahine Forest Park guided by the DOC strategy,<sup>4</sup> the *Principles and Values for Community Engagement 2023*<sup>5</sup> and the requirements in the *Wellington Conservation Management Strategy 2019* (CMS).<sup>6</sup> Because wild deer also affect land beyond the park, collaboration across boundaries was encouraged throughout our planning.

We worked closely with iwi to understand their values and aspirations. This early engagement ensured that our decisions honoured Treaty partnerships and reflected our shared values – a foundational approach to how we plan, act and adapt together. It also helped shape wider conversations with hunters, landowners and conservation groups. To support this process, we established the Ruahine Deer Advisory Group (DAG) – a forum of iwi affiliate members, hunters, landowners and conservation interests.

An interim plan was shared in early 2025 to test ideas and gather feedback. Input from iwi and the DAG helped shape the final 5-year strategy, and the DAG will continue to support the plan's implementation through advice and active involvement of the interests it represents.

With strong support and a clear mandate, the next section outlines how deer will be managed using an adaptive, evidence-based approach.

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<sup>4</sup> [doc.govt.nz/our-purpose-and-outcomes](https://doc.govt.nz/our-purpose-and-outcomes)

<sup>5</sup> The Policy Project. 2023. Principles and Values for Community Engagement: A guide for government agencies and policy advisors on principles and values that guide good community engagement in policy making. Wellington: New Zealand Government. [dpmc.govt.nz/sites/default/files/2023-10/policy-project-community-engagement-principles-and-values-oct23.pdf](https://dpmc.govt.nz/sites/default/files/2023-10/policy-project-community-engagement-principles-and-values-oct23.pdf)

<sup>6</sup> [doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf](https://doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf)

## Why we need to manage wild deer

Ruahine Forest Park is a 95,000-hectare conservation area with rich biodiversity and deep cultural significance. It provides clean water, stable soils and habitat for native species. It is also a place that is valued by local communities and tangata whenua.

But these values are under threat. Too many wild deer are damaging the forest – eating native plants, stopping regeneration and weakening the ecosystem. Without action, the forest’s health, biodiversity, cultural connections and recreational opportunities will continue to decline (see Appendix 1). Red deer are the main species of wild deer in the park and have been present for around 100 years. Sika and fallow deer also occur sporadically.

This plan responds to the urgent need to protect the park’s natural and cultural values through inclusive, evidence-based action and an adaptive management approach.



Ruahine Forest Park, showing very few plants in the understory. Wild deer browsing prevents the forest’s regeneration, negatively impacting its health and resilience to climate change. Photo: Department of Conservation

## Strategic, legal and policy framework

Wild deer management in Ruahine Forest Park is built on a solid legal and policy foundation (see Appendix 2). Our responsibilities are set out in the Conservation Act 1987<sup>7</sup> and Wild Animal Control Act 1977.<sup>8</sup> The work is also supported by strategic direction from:

- *Wellington Conservation Management Strategy 2019*<sup>9</sup>
- *Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020*<sup>10</sup>
- *Te Ara ki Mua: a framework for adaptive management of wild goats, deer, wild pigs, tahr, and chamois.*<sup>11</sup>

These frameworks ensure that all actions are lawful, evidence based, and aligned with our obligations to protect biodiversity and be honourable Treaty partners.

**While this plan applies to Ruahine Forest Park, DOC recognises that deer impacts occur across tenures. We will work with iwi, regional councils and adjoining landowners to explore collaborative approaches, including shared monitoring and integrated control where feasible.**

<sup>7</sup> [legislation.govt.nz/act/public/1987/65/en/latest](https://legislation.govt.nz/act/public/1987/65/en/latest)

<sup>8</sup> [legislation.govt.nz/act/public/1977/111/en/latest](https://legislation.govt.nz/act/public/1977/111/en/latest)

<sup>9</sup> [doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf](https://doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf)

<sup>10</sup> [doc.govt.nz/anzbs-2020](https://doc.govt.nz/anzbs-2020)

<sup>11</sup> [doc.govt.nz/globalassets/documents/conservation/biodiversity/te-ara-ki-mua-framework.pdf](https://doc.govt.nz/globalassets/documents/conservation/biodiversity/te-ara-ki-mua-framework.pdf)

## Taking an adaptive approach to managing wild deer

### What is adaptive management?

Adaptive management is a flexible approach to planning and decision making. It is applied when resources and environments are uncertain, using monitoring to guide improvements over time. It involves:

- **learning by doing** – treating actions as experiments
- **tracking results** – seeing what works
- **adjusting plans** – incorporating lessons learned.

This approach helps improve conservation outcomes by using evidence and adapting to change. It also requires openness, innovation and a commitment to learning.

In Ruahine Forest Park, this approach is used through a **plan–manage–improve** cycle: we plan actions, carry them out, monitor the results and refine our strategies based on what we learn. This cycle is represented in a diagram in *Glovebox Guide to Managing Feral Deer* (Forsyth et al. 2023).<sup>12</sup>

### Putting adaptive management into action

This document sets the overall direction for deer management in Ruahine Forest Park. In addition, an Annual Operational Plan is created each year with input from iwi and the DAG. These two documents guide this plan's implementation, covering four key areas:

- **Community engagement** – involving iwi, hapū, hunters, landowners and the community to ensure that deer management reflects shared values, builds trust and supports long-term stewardship
- **Planning** – setting priorities based on evidence and community input, ensuring that actions are targeted, coordinated and responsive
- **Hunting activity** – coordinating recreational, commercial (Wild Animal Recovery Operations) and DOC-led hunting to ensure that wild deer control is strategic, efficient and focused where it is needed most
- **Monitoring and reporting** – tracking progress and guiding improvements

This approach may be refined over time based on feedback and monitoring.

The annual operational plans will include indicative deer harvest targets for recreational, commercial and DOC-led control, tailored to management units and informed by monitoring data.

### Management units

The park has been divided into six management units (see Appendix 3). These are smaller, more manageable zones that help tailor wild deer management to local conditions, such as vegetation type, access and wild deer impacts. They support adaptive management by:

- guiding where hunting and monitoring efforts are focused
- helping track changes in wild deer numbers and forest recovery by area
- enabling targeted, efficient and responsive actions.

Establishing management units is a practical tool that supports learning and improvement over time.

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<sup>12</sup> Forsyth D, Comte S, Bengsen A, Hampton J, Pople T. 2023. *Glovebox guide to managing feral deer*. A PestSmart publication. Canberra: Centre for Invasive Species Solutions. <https://pestsmart.org.au/wp-content/uploads/sites/3/2023/10/CISS-Glovebox-Guide-Feral-Deer-final.pdf>. See also <https://pestsmart.org.au/framework-overview>

## Annual reporting

We will produce a report each year to:

- share progress
- evaluate results
- recommend changes
- keep the community informed
- track cultural, social and ecological health trends.

## Bringing it all together

This plan follows a continuous cycle:

1. **Produce Annual Operational Plan** – Set priorities and actions.
2. **Act** – Carry out hunting and engagement.
3. **Monitor** – Track outcomes.
4. **Report** – Share findings and adjust planned approach.

This cycle ensures that wild deer management stays responsive, inclusive and evidence based, supporting the health and community values of Ruahine Forest Park.

## Objectives and outcomes

Table 1 outlines the plan's key objectives, its expected outcomes and what its success will look like.

**Table 1. Objectives, outcomes and indicators of success for this plan.**

Objective	Outcome	What success looks like	Evaluation frequency
<p><b>1. Protect nature</b> Manage wild deer so the mauri of Ruahine Forest Park, habitats, native plants and native animals can thrive.</p>	Wild deer are managed to ensure that the ecological integrity <sup>a</sup> and biodiversity <sup>b</sup> values of Ruahine Forest Park improve, in line with the Wellington CMS 2019 policy.	<p>Trends show improving vegetation structure and composition and an increasing presence of palatable species.</p> <p>Mātauranga Māori (Māori knowledge systems) and Western science-based indicators both show ecological recovery.</p>	Annual monitoring, with trend analysis every 3–5 years
<p><b>2. Support Māori aspirations</b> Work closely with iwi and hapū to reflect their values and leadership</p>	Iwi and hapū are active partners in deer management, supporting the plan and DOC's role.	<p>Cultural health indicators are co-developed with iwi and hapū and used in annual reporting.</p> <p>The mauri of priority cultural sites, taonga species and waterways shows measurable improvement over time.</p> <p>Active partnership is reflected in shared decisions, monitoring design and priority setting.</p>	Annual engagement review
<p><b>3. Engage the community</b> Involve hunters, landowners and locals in decision making.</p>	Local communities, hunters and landowners are actively involved in deer management and support the plan. Their involvement strengthens shared stewardship and long-term support for deer management.	<p>Hunters, landowners and community groups participate in operational plan development, monitoring and actions.</p> <p>Engagement activities occur annually and input is reflected in decision making.</p> <p>Community-derived observations contribute to reporting.</p>	Annual engagement review
<p><b>4. Learn and improve</b> Use experience and monitoring to guide decision making over time.</p>	We have a stronger understanding of deer population trends and vegetation impacts, helping us target resources and actions more effectively.	<p>Monitoring results are used each year to refine operational plans.</p> <p>Five-year evaluations show improved understanding and more efficient targeting of management effort.</p>	Annual reporting, with evaluation every 5 years

<sup>a</sup> **Ecological integrity** reflects the overall health of an ecosystem. An ecosystem is considered to be healthy and have integrity when it hosts all the native plants and animals typical of the area, and when ecological processes are functioning well.

<sup>b</sup> **Biodiversity** describes the variety of living things from all sources – land, marine and fresh water. It includes diversity within species (genetic diversity), between species (species diversity) and of ecosystems (ecological diversity).



Patē, / seven-finger is a preferred food of deer. Pictured on the left is a healthy plant, while on the right is a plant with most of its leaves stripped by deer. *Photo: Karl Drury*

## Monitoring and evaluation

Monitoring links our vision to action by showing whether deer management is working, whether ecological, cultural and social values are being upheld, and where we need to make adjustments. By using mātauranga Māori alongside Western science-based monitoring, our decisions will reflect shared values, evidence, and the aspirations of iwi, hunters, landowners and the wider community.

Monitoring underpins the adaptive management cycle. It provides the information needed to track progress towards healthy forests, thriving biodiversity and strong cultural relationships with the park, and guides us to improve our approach over time.

### Why monitoring matters

Monitoring helps us to:

- confirm whether deer control is reducing impacts on biodiversity, taonga species and cultural values
- identify where management is effective and where changes or escalated action may be required
- provide consistent, transparent information to iwi, hunters, landowners, councils and the community
- strengthen trust by showing how decisions are informed by evidence and partnership.

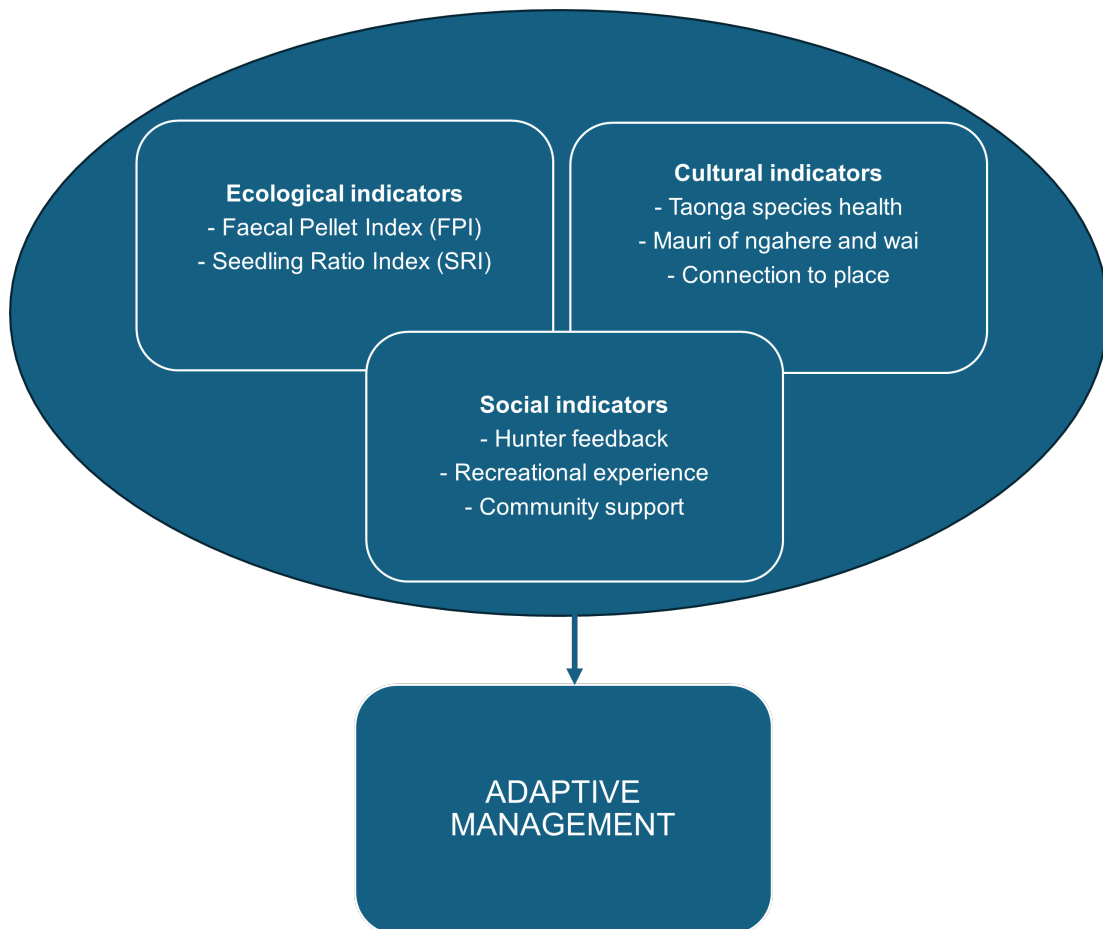
Monitoring will help answer key questions, such as the following:

- Are deer numbers decreasing where control is being carried out?
- Is the forest recovering in terms of both structure and palatable species returning?
- Are iwi aspirations being upheld, and are cultural practices, relationships and values being supported?
- Are sites of significance, taonga species and waterways recovering or being protected?
- Are hunters, landowners and community members observing positive changes?
- Are we learning what works and applying that knowledge to improve our approach?

### An integrated monitoring framework

A single integrated monitoring framework will be developed for the park in the first 2 years of the plan's implementation. This framework will combine mātauranga Māori, Western science-based measures and community knowledge by:

- aligning with the objectives and outcomes in Table 1 by providing the indicators used to measure progress
- including clear ecological, cultural and social indicators
- providing agreed thresholds or triggers for increasing wild deer control where impacts remain high
- being co-designed with iwi, with input from the DAG
- ensuring that monitoring remains practical, repeatable and relevant to annual planning.



**Figure 1. Proposed integrated monitoring framework for Ruahine deer management. Ecological, cultural and social indicators are designed and used together to guide annual decisions through the adaptive management cycle.**

#### What we will measure

##### Ecological indicators

Primary ecological indicators will include:

- the Faecal Pellet Index (FPI) – counts deer droppings to estimate deer numbers
- the Seedling Ratio Index (SRI) – compares palatable and unpalatable plant seedlings present to assess recovery and levels of wild animal browse in an environment

### **Cultural indicators**

Cultural indicators will be developed with iwi and hapū. They may include:

- the health and abundance of taonga species
- the mauri and wellbeing of ngahere, wai and sites of significance
- access to wāhi tapu (sacred places) and places that are important for cultural practices
- the continuity and expression of cultural relationships and practices within Ruahine Forest Park.

### **Social indicators**

Social indicators will be co-developed with hunters, landowners and community partners. They may include:

- community observations of deer abundance and distribution
- hunter experience, access and participation in monitoring or control
- support for management actions and engagement processes.

### **How the results will be used**

Monitoring results will be combined each year into a single report that:

- presents ecological, cultural and social indicator results in an integrated way
- identifies where management targets are being met and where further action is needed
- triggers increased control in areas where deer impacts remain too high
- informs the development of the next Annual Operational Plan
- ensures transparent communication with iwi, hunters, landowners and the wider community.

This ongoing cycle of measuring, learning and adapting will ensure that deer management remains responsive, evidence based and grounded in shared values.

## Appendix 1: Ruahine Forest Park wild deer management context

### Overview

Ruahine Forest Park<sup>13</sup> was established in 1976. It is approximately 95,000 hectares in size and covers most of the Ruahine Range, stretching from the Taruarau River in the north to the Manawatū Gorge in the south. It is centrally located between Manawatū and Hawke's Bay and managed by the Department of Conservation Te Papa Atawhai (DOC).

Red deer are the main species of wild deer in the park and have been present for around 100 years. Sika and fallow deer can also be found in the park but are much less common.

### Access

The park can be accessed from both the eastern (Hawke's Bay) and western (Manawatū) sides of the Ruahine Range.

The park has 21 formal public access points that are maintained by DOC, with up to 56 other potential access routes identified. Access often involves negotiation with adjoining private landowners (approximately 155 properties), especially where legal but unformed roads cross private land. We work collaboratively with Herenga ā Nuku Aotearoa, the Outdoor Access Commission, to resolve access issues and improve public access outcomes.

This park is a popular destination for public users given its accessibility from urban centres in the lower and central North Island. The public can access the park for a range of recreational and cultural activities, including tramping and hunting. There are approximately 650 km of tramping tracks or routes and 60 huts or bivvies within the park. Detailed information on recreational hunting access can be found on our website<sup>14</sup> and on the map in Figure A1.1 below.

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<sup>13</sup> [doc.govt.nz/ruahine-forest-park](https://doc.govt.nz/ruahine-forest-park)

<sup>14</sup> [doc.govt.nz/ruahine-forest-park-hunting](https://doc.govt.nz/ruahine-forest-park-hunting)

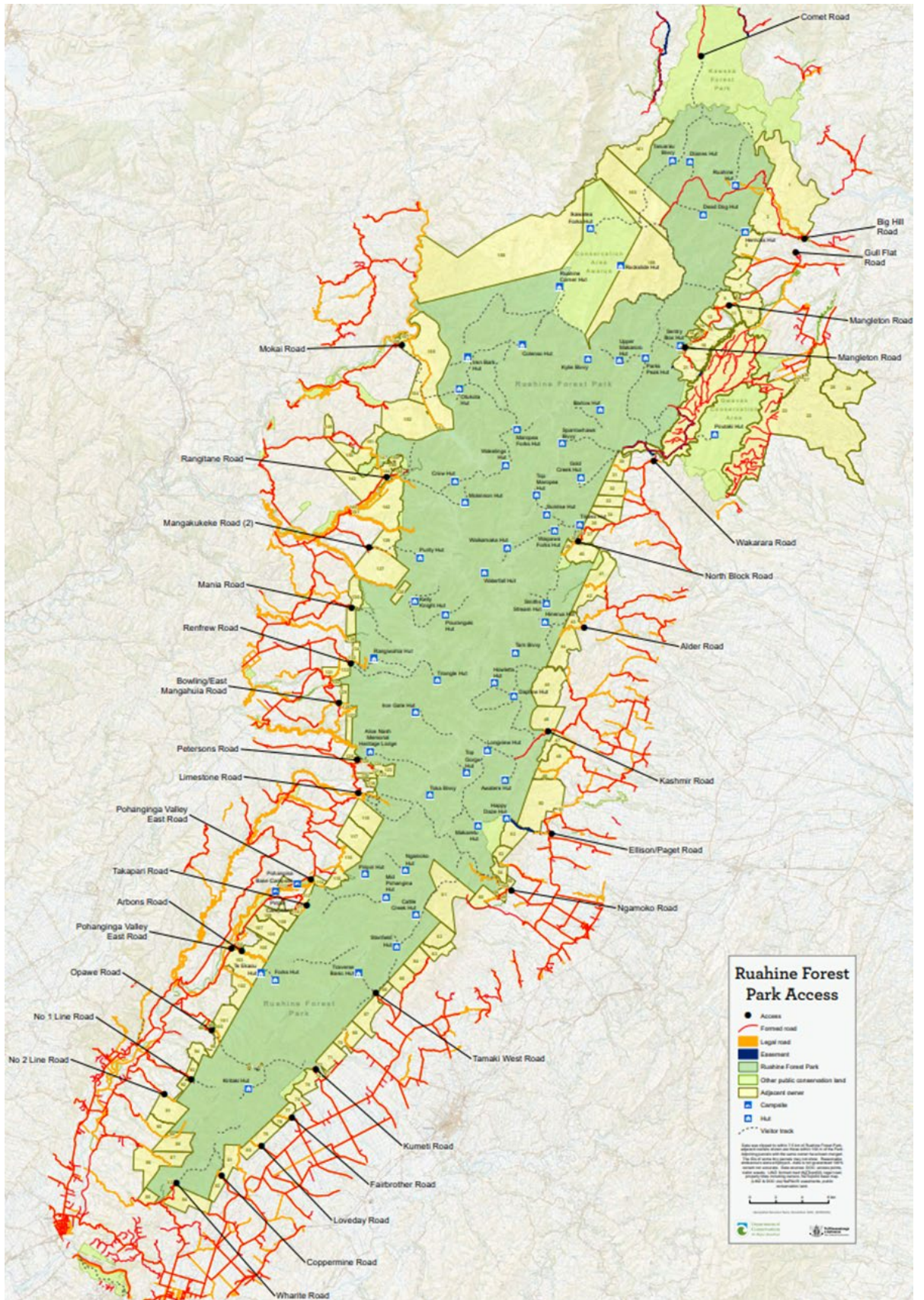


Figure A1.1. Map of main access points to the park.

## Values

The national and regional significance and the biodiversity, cultural, historical and recreational values of Ruahine Forest Park are outlined in both the *Ruahine Forest Park Conservation Management Plan 1992* (section 2.10)<sup>15</sup> and the *Wellington Conservation Management Strategy 2019* (CMS) (section 5.1).<sup>16</sup>

Values described in the 1992 plan align with the principles put in place when the park was established in 1976. These centre on soil and water conservation and the ecological and recreational significance of the park.

The Wellington CMS 2019 describes planned outcomes for the region (section 5.2). These include the protection of ecosystem services, natural features, landscapes, threatened species and recreation (including hunting).

## Management and conservation

### Governance

Ruahine Forest Park is managed under the Wellington CMS 2019. The park's description, planned outcomes, related policies and scheduled milestones are described in the CMS under 'Central Spine Place' (section 5).

### Purpose

The park is managed under the Conservation Act 1987 to protect natural and historic resources while enabling public recreation where this is consistent with conservation purposes.<sup>17</sup>

## Tangata whenua

### Cultural importance

According to Māori kōrero tuku iho (stories passed down from generation to generation), the Ruahine Range is part of the spine of the ika (fish) that Māui hauled up, which is known as Te Ika-a-Māui (the North Island). Ruahine Forest Park holds significant value to tangata whenua, with deep connections through pā punanga (refuges), mahinga kai (food-gathering sites), and the whakapapa (genealogy) to the land through place names, stories and wāhi tapu (sacred places). Kaitiakitanga (guardianship) of the ngahere (forest) and the taonga (treasured) flora and fauna is also important to tangata whenua.

Deer management in the park supports the expression of kaitiakitanga. Cultural outcomes will therefore be reflected in how priorities are set, how success is measured and how decisions are made. Ecological recovery and cultural wellbeing are interconnected. Restoring the mauri (life force) of the ngahere ensures that cultural relationships, practices and identity connected to the Ruahine can continue for generations to come.

### Treaty settlements

Various iwi have settled Treaty claims with ancestral lands in Ruahine Forest Park, including Rangitāne o Manawatū, Rangitāne o Tamaki nui-ā-Rua, Rangitāne o Wairarapa, Ngāti Kahungunu ki Tāmaki-nui-a-Rua, Ngāti Kahungunu ki Wairarapa and Heretaunga Tamatea (Tamatea Pōkai Whenua). Other iwi who are at different stages of the Treaty settlement process with an interest in the park include Ngā Iwi o Mōkai Pātea (comprising Ngāi Te Ohuake, Ngāti Whitikaupeka, Ngāti Tamakōpiri and Ngāti Hauti), Ngāti Hinemanu me Ngāti Paki, Ngāti Kauwhata and Ngāti Raukawa ki te Tonga.

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<sup>15</sup> [doc.govt.nz/ruahine-forest-park-conservation-management-plan](https://doc.govt.nz/ruahine-forest-park-conservation-management-plan)

<sup>16</sup> [doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf](https://doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf)

<sup>17</sup> Conservation Act 1987, section 6(a) and (e): [legislation.govt.nz/act/public/1987/65/en/latest/#DLM104081](https://legislation.govt.nz/act/public/1987/65/en/latest/#DLM104081)

## Biodiversity and ecosystem services

### Vegetation communities

Both Elder (1965)<sup>18</sup> and Cunningham (1979)<sup>19</sup> described the numerous vegetation patterns of Ruahine Forest Park, as well as influences on vegetation change over time. Colenso (1884) provided an early written account of the natural history and botany of the Ruahine Range, based on journeys undertaken in 1845–47.<sup>20</sup> Because of its position in the centre of the North Island, the Ruahine Range spans a variety of environmental conditions, creating habitats for diverse plant communities, including:

- black and mountain beech forest in the northeast, supporting two mistletoe species
- kāmahi and red beech forest in the west, with kōhūhū, pink pine and mountain toatoa at the treeline
- podocarp (rimu, miro, mataī and tōtara) and mixed broadleaf (hīnau, māhoe, rewarewa and maire) forest on the lowest slopes and terraces.

The higher parts of the range include:

- alpine snow tussock grassland
- montane red tussock grassland
- montane leatherwood scrubland in the south.

Limestone geology in the northwest creates a naturally rare ecosystem type. There are also small tarns and wetlands, which support unique plant communities, with rare and threatened plants like *Acaena rorida*, *Isolepis lenticularis*, *Ourisia modesta*, *Gratiola concinna* and *Carex rubicunda*.

Past disturbances and impacts of browsing mammals have created large areas of scrubby ‘collapsed’ forest, particularly in the southwest.

### Species

The park is home to many native species of animals and plants.

Birds include the kiwi-nui / North Island brown kiwi, whio / blue duck, mātātā/fernbird, kākārīki / New Zealand parakeet, kārearea / New Zealand falcon, pōpokotea/whitehead, kākā and toutouwai / North Island robin, among many others.

The park also supports skinks (*Oligosoma microlepis* and *O. polychroma*), geckos (*Naultinus punctatus* and *Woodworthia maculata*), the giant snail *Powelliphanta marchanti* and velvet worms (*Peripatus* species). Pekapeka / long-tailed bats have also been detected.

Rare or threatened plants in the Ruahine include pua o Te Rēinga / dactylanthus, *Pittosporum turneri*, *Daucus glochidiatus* and *Mentha cunninghamii* as well as those noted above and many others.

### Ecosystem Management Units

From 2014 to 2022, DOC’s biodiversity management system utilised Ecosystem Management Units (EMUs). These were sites chosen to best represent the full range of New Zealand’s natural ecosystems and were used to direct our work effort after applying a complementarity-based prioritisation tool, Zonation. Three EMUs were mapped in the park to represent the northern, central and southwestern vegetation communities. The highest priority was the ‘Northern Ruahine’, which had the most associated threatened species and included the naturally rare ecosystems around the Makirikiri Tarns. We are currently developing a new biodiversity planning approach, informed by tools such as BioInvest, that will be implemented during the first 1–2 years

<sup>18</sup> Elder NL. 1965. Vegetation of the Ruahine Range: an introduction. Transactions of the Royal Society of New Zealand: Botany. 3(3):13.

<sup>19</sup> Cunningham A. 1979. A century of change in the forests of the Ruahine range, North Island, New Zealand: 1870–1970. New Zealand Journal of Ecology. 2:11–21.

<sup>20</sup> Colenso W. 1884. An account of visits to, and crossings over, the Ruahine Mountain Range, Hawke’s Bay, New Zealand, and of the natural history of that region, performed in 1845–1847; cum multis allis. Napier: Daily Telegraph Office.

of this plan. This approach will help identify priority areas and inform deer management, monitoring and adaptive decision making over time.

### **Why Ruahine Forest Park matters: ecosystem services and biodiversity**

Ruahine Forest Park was established to protect and sustain the natural systems that underpin both ecological integrity and community wellbeing in this region. It provides critical ecosystem services that are foundational to its conservation values and purpose. These include the following:

- **Water regulation** – Healthy forests help moderate rainfall, reduce flood risk and maintain stream flows during droughts, contributing to clean, reliable water for people and nature.
- **Pollination and seed dispersal** – Native birds and insects supported by the forest play essential roles in regenerating native plant communities.
- **Soil stability and carbon storage** – Healthy vegetation helps prevent erosion and contributes to climate resilience.
- **Habitat provision** – The park supports a wide range of native species, including threatened plants and animals, through its diverse forest and alpine ecosystems.
- **Climate regulation** – Healthy forests store carbon, helping to reduce greenhouse gases and moderate the impacts of climate change.

Biodiversity is at the heart of the park’s ecological function. Its rich variety of native species and ecosystems – from podocarp-broadleaf forests to alpine tussocklands – makes it a stronghold for ecological resilience. Protecting this biodiversity is both a statutory obligation and a shared responsibility for all New Zealanders.

These ecosystem services and biodiversity values are not just benefits – they are the core natural values that define the purpose of the park. However, they are increasingly under threat from overabundant deer and other introduced species.

The ability of the park to regenerate, support native species and deliver essential ecosystem services is being compromised. Intense browsing pressure degrades forest structure, reduces biodiversity and weakens ecosystem resilience. Addressing these pressures is the central focus of this plan and is critical to restoring and maintaining the park’s ecological integrity.

### **Current management of introduced wild animals**

The natural values of the park – particularly the forest’s ability to regenerate, support biodiversity and provide essential ecosystem services – are being degraded by increasing negative impacts of wild deer and other browsers such as wild goats and possums.

As part of DOC’s national predator control programme,<sup>21</sup> possum, rat and stoat impacts in the northern area of the park have been managed, reflecting the programme’s priority for improving ecosystem representation and protecting threatened species. We also manage wild goats intensively within and in the areas surrounding the park. Additionally, a wide range of community and iwi initiatives, supported (between 2020 and 2023) by Mahi mō te Taiao / Jobs for Nature projects, maintain a predator trapping network and provide environmental advocacy to the park and surrounding lands. This work largely focuses on whio and kiwi conservation work but extends more widely to advocacy for natural values of the park.

Various species-led weed control programmes have targeted weeds in and around the fringes of Ruahine, including old man’s beard and wilding conifers.

Our management of natural values in the park is supported by iwi, hapū and community initiatives, often in collaboration with private landowners and regional and local councils.

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<sup>21</sup> [doc.govt.nz/predator-control-programme](https://doc.govt.nz/predator-control-programme)

## **Wild deer impacts, pressures and management**

Red deer have been present in the park for around 100 years, but their increasing abundance now threatens forest health, biodiversity and cultural values. This section outlines current understanding of deer impacts, the history of management efforts and the need for a coordinated response.

DOC's National Monitoring and Reporting System<sup>22</sup> provides high-quality evidence for targeted and effective protection of the land and its taonga native plants and wildlife. In addition, many research projects have been conducted in New Zealand and internationally that describe the consequences of over-abundant deer populations.

National-scale Tier 1 monitoring has provided us with more than 10 years of data, allowing us to confidently evaluate and describe national-scale changes. We measure 20 x 20 m plots of vegetation and count faecal pellets (droppings) of deer, goats, sheep, tahr and chamois to help monitor trends in wild animal numbers and vegetation.

A lot of park-scale monitoring was undertaken in the park from the 1960s to the 1980s but we currently rely on this Tier 1 broadscale monitoring. More detailed (Tier 2) monitoring was carried out in Ruahine in 2024 across 20 transects and 342 plots.<sup>23</sup> This showed that palatable plant species were very rare and relatively high numbers of ungulates were present based on faecal pellet counts. Extending Tier 2 monitoring will allow us to measure and report on changes in the park related to deer management activities.

## **Increasing abundance and distribution**

The abundance and distribution of ungulates, including deer, across all public conservation land is increasing and the park conforms with this national trend.<sup>24</sup> This is also supported by observations by DOC staff, community users and landowners.

## **Conservation threat**

Wild deer damage native forests by feeding on forest shrubs, trees and seedlings. They start with the native plants they prefer most, such as patē / seven-finger, pāpāuma/broadleaf, and mouku / hen and chicken fern in forest understoreys, before moving on to plants they like less. In subalpine areas, deer can damage tall tussocks and wildflowers like alpine buttercups.

By targeting these plants, wild deer can change the composition of forests. This takes vital food and shelter from other animals. Over time, this can hinder or stop forest regeneration and reduce a forest's resilience to the effects of climate change.

Recent reports from our national monitoring and reporting system show that introduced wild animals are contributing to a decline in common tree species and changing the make-up of forests – threatening the habitats where many native species live.

## **Deer liberations and management**

Red deer liberations in the North Island first occurred in the early 1860s for sport and game purposes.<sup>25</sup> Red deer have been known to inhabit the Ruahine Range since the early 1900s. Liberations of deer at Table Flat (1922) and Delaware (1922) were made only shortly in advance of deer spreading southwards from the northern area of Ruahine Forest Park.<sup>26</sup> By the late 1930s, government reports noted concerns about the

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<sup>22</sup> [doc.govt.nz/our-work/monitoring-and-reporting-system](https://doc.govt.nz/our-work/monitoring-and-reporting-system)

<sup>23</sup> Wild animal monitoring - Ruahine Forest Park: indicators of wild animals and impact on the forest understorey. 2025. [place unknown]: Department of Conservation. [doc.govt.nz/globalassets/documents/conservation/biodiversity/wild-animal-monitoring-ruahine-forest-park.pdf](https://doc.govt.nz/globalassets/documents/conservation/biodiversity/wild-animal-monitoring-ruahine-forest-park.pdf)

<sup>24</sup> [doc.govt.nz/our-work/monitoring-reporting/national-status-and-trend-reports-2022-2023/ungulates-2022-2023](https://doc.govt.nz/our-work/monitoring-reporting/national-status-and-trend-reports-2022-2023/ungulates-2022-2023)

<sup>25</sup> Wodzicki KA. 1950. Introduced mammals of New Zealand: an ecological and economic survey. Wellington: Department of Scientific and Industrial Research.

<sup>26</sup> Logan and Harris (1967) and Elder (1965) cited in: James IL, Beaumont PE. 1971. Report on a Survey of the vegetation of the Southern Ruahine Range. Rangiora: New Zealand Forest Service. Protection Forestry Branch Report No.: 80

impacts of deer and other wild animals.<sup>27</sup> Deer control was initially managed by the Department of Internal Affairs, then by the New Zealand Forest Service.

Although management began in the 1930s and the population was reduced by the 1950s, it was not until widespread helicopter hunting began in the 1970s that the deer population was substantially reduced and vegetation recovery was reported.

The first peak of deer abundance and subsequent impacts likely occurred earlier in Ruahine than in other parts of the North Island – for example, Raukūmara Conservation Park, which was occupied later by deer.

Studies and field reports of vegetation in the park, along with known impacts of introduced browsers (including deer, goats and possums), indicate that there are multiple interacting threats to the ecological integrity and biodiversity of the forests and shrublands. These include sustained browsing pressure limiting forest regeneration, competition from invasive plant species, predation on native fauna and the impacts of climate change on ecosystem resilience.

When DOC assumed responsibility for Ruahine Forest Park in 1987, deer numbers were at relatively low levels, mainly thanks to active commercial aerial hunting through the 1970s to 1980s. Since 1987, we have mainly encouraged recreational and commercial hunting to manage deer in the park, as outlined in the 1992 Conservation Management Plan. DOC-led wild deer management operations have been inconsistent and small in scale since then and DOC-led hunting efforts have largely focused on the eradication or containment of wild goats.

### **Commercial and recreational hunting**

Commercial hunting (Wild Animal Recovery Operations activity) has declined over time on all public conservation land, including Ruahine Forest Park, due to a range of factors, including reduced commercial viability. This reflects market conditions, rising operational costs, and the increasing availability of deer on surrounding private land, which can make harvesting on public conservation land less attractive and more difficult to sustain.

Recent improvements in national reporting of WARO activity illustrate these trends and provide greater transparency on harvest levels and distribution, supporting DOC's ongoing management of wild deer populations.<sup>28</sup>

Recreational and subsistence hunting have been common in the park since red deer were first established for enjoyment, lifestyle, sport and trophy hunting. Given its proximity to urban centres and relative ease of access, the park remains a popular destination for recreational hunters. Data show that approximately 5,000–6,000 recreational hunters use it annually.<sup>29</sup>

Hunting in the park is more than a pastime – it is a way of life for many. It connects people to nature, provides food and supports wellbeing. Wild deer are also an important food source to some hunters and tangata whenua. Community observations indicate that wild deer numbers and their impacts are increasing and that the quality of wild deer meat and game has decreased in the park and surrounding areas.

Hunters value healthy wild deer, access to remote areas and the opportunity to actively support conservation through responsible hunting. Their knowledge of the land, observations, and participation in monitoring and control efforts are essential to the success of this plan.

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<sup>27</sup> Harris L. 2002. The deer menace: a history of Government pest control operations 1930–1987. Wellington: self-published.

<sup>28</sup> [doc.govt.nz/wild-animal-recovery-operations-data](https://doc.govt.nz/wild-animal-recovery-operations-data)

<sup>29</sup> Kerr G, compiler. 2023. DOC hunting permit data 2013–2022. [place unknown]: Department of Conservation (unpublished; DOC-7374871).

**Other introduced wild animals**

Other introduced browsing wild animals, such as wild goats and pigs, are also present in the park. Wild goats and pigs are less abundant than deer, so their impacts tend to be more localised and less severe. Wild goats are targeted and controlled through DOC-led efforts and hunted recreationally. Wild pigs occur sporadically and are hunted recreationally.

## Appendix 2: Legal and statutory planning context

The Department of Conservation (DOC) operates within a structured legal framework where statutes, policies and plans must be interpreted and applied in a hierarchical and integrated manner. This plan integrates multiple drivers, including policy, legislation and strategies that direct our work managing introduced wild animals.

### Legal hierarchy

#### Primary legislation

This sets the overarching legal obligations. Examples include the Conservation Act 1987<sup>30</sup> and Wild Animal Control Act 1977.<sup>31</sup>

#### General policies

These provide interpretive guidance for implementing the Acts. Examples include the Conservation General Policy 2005.<sup>32</sup>

#### Statutory plans

These are developed under the Conservation Act and must be consistent with both that Act and relevant general policies. Examples include conservation management strategies (CMSs) and conservation management plans (CMPs).

#### Multiple instruments

Where multiple instruments apply (including non-statutory plans), we must reconcile them using legal principles.

- Higher-level instruments override lower-level ones.
- More specific provisions take precedence over general ones.
- More recent instruments may supersede older ones.

#### Strategies and plans of relevance to Ruahine Forest Park

- The *Wellington Conservation Management Strategy 2019*<sup>33</sup> is a statutory document that sets out conservation values, outcomes and policies for the region, including Ruahine Forest Park.
- The *Ruahine Forest Park Conservation Management Plan 1992*<sup>34</sup> remains operative until formally revoked, but its provisions must be interpreted in light of the Wellington CMS 2019 and DOC's current strategic direction.
- The *Ruahine Forest Park Adaptive Wild Deer Management Plan 2025–2030* (this document) is a non-statutory but strategic document that aligns with both the Wellington CMS 2019 and DOC's legal obligations under the Conservation Act and Wild Animal Control Act.

### Policy and legal framework

#### Wild Animal Control Act 1977

- Wild deer are managed by DOC under the Wild Animal Control Act.
- The Act aims to control wild animals to ensure 'proper land use'.

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<sup>30</sup> [legislation.govt.nz/act/public/1987/65/en/latest](https://legislation.govt.nz/act/public/1987/65/en/latest)

<sup>31</sup> [legislation.govt.nz/act/public/1977/111/en/latest](https://legislation.govt.nz/act/public/1977/111/en/latest)

<sup>32</sup> [doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/conservation-general-policy.pdf](https://doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/conservation-general-policy.pdf)

<sup>33</sup> [doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf](https://doc.govt.nz/globalassets/documents/about-doc/role/policies-and-plans/wellington-cms/wellington-cms-volume-1.pdf)

<sup>34</sup> [doc.govt.nz/globalassets/documents/about-doc/policies-and-plans/conservation-management/ruahine-forest-park-cmp.pdf](https://doc.govt.nz/globalassets/documents/about-doc/policies-and-plans/conservation-management/ruahine-forest-park-cmp.pdf)

- It mandates ‘concerted action against the damaging effects of wild animals on vegetation, soils, waters, and wildlife’ and ‘co-ordination of hunting measures’.<sup>35</sup>

#### **Deer Control Policy Statement 2001**

- The Deer Control Policy Statement 2001<sup>36</sup> was established under the Wild Animal Control Act, within the context of the *New Zealand Biodiversity Strategy 2000*.<sup>37</sup>
- It guides DOC’s national approach to deer control, focusing on targeted actions to protect native plants and ecosystems.

#### **Ruahine Forest Park Conservation Management Plan 1992**

- The *Ruahine Forest Park Conservation Management Plan 1992* outlines deer management in the park, relying on recreational and commercial hunting.
- DOC can undertake control if these efforts do not achieve acceptable levels.
- The overarching objectives of the plan reflect the requirement to ‘firstly protect the natural values of the area, and secondly to facilitate appropriate recreational use and enjoyment [of the Park]’.<sup>38</sup>
- The plan remains operative until it is revoked under policy 5.3.2.3 within the Wellington CMS 2019.

#### **Wellington Conservation Management Strategy 2019**

- The *Wellington Conservation Management Strategy 2019* is a statutory document under the Conservation Act, describing conservation values and guiding DOC’s work.
- It was developed with community input, and includes policies for deer management in Ruahine Forest Park, such as:
  - collaborating with post-settlement governance entities, tangata whenua, hunters and conservation partners
  - creating a deer management plan with an adaptive approach
  - revoking the 1992 plan once the new plan is implemented.

#### **Strategic framework**

##### **Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020 (Biodiversity Strategy)**

- The *Biodiversity Strategy 2020*<sup>39</sup> is a national strategy responding to international biodiversity commitments.
- It provides a roadmap for conservation actions to address pressures on nature and biodiversity.
- It includes objectives for managing introduced wild animals.

##### **Te Ara ki Mua: a framework for adaptive management of wild goats, deer, wild pigs, tahr, and chamois**

- *Te Ara ki Mua*<sup>40</sup> is a strategic framework for adaptive management of introduced wild animals, aligned with the goals of the Biodiversity Strategy 2020.
- Three pou direct action: Tiaki me te whakahaumanu (protecting and restoring ecosystems), Whakahau (empowering action) and Tūāpapa (getting the system right).

<sup>35</sup> Wild Animal Control Act 1977, section 4(1)–(2): [legislation.govt.nz/act/public/1977/111/en/latest/#DLM16977](https://legislation.govt.nz/act/public/1977/111/en/latest/#DLM16977)

<sup>36</sup> Department of Conservation. 2001. Department of Conservation’s policy statement on deer control. Wellington: Department of Conservation. [doc.govt.nz/Documents/about-doc/policies-and-plans/deer-control-policy.pdf](https://doc.govt.nz/Documents/about-doc/policies-and-plans/deer-control-policy.pdf)

<sup>37</sup> Department of Conservation. 2000. The New Zealand biodiversity strategy. [place unknown]: Department of Conservation. [doc.govt.nz/Documents/conservation/new-zealand-biodiversity-strategy-2000.pdf](https://doc.govt.nz/Documents/conservation/new-zealand-biodiversity-strategy-2000.pdf)

<sup>38</sup> Department of Conservation. 1992. Ruahine Forest Park conservation management plan. Part II: Management objectives. Napier: Department of Conservation. Hawke’s Bay Conservancy Series 4; p. 18. <https://doc.govt.nz/globalassets/documents/about-doc/policies-and-plans/conservation-management/ruahine-forest-park-cmp.pdf>

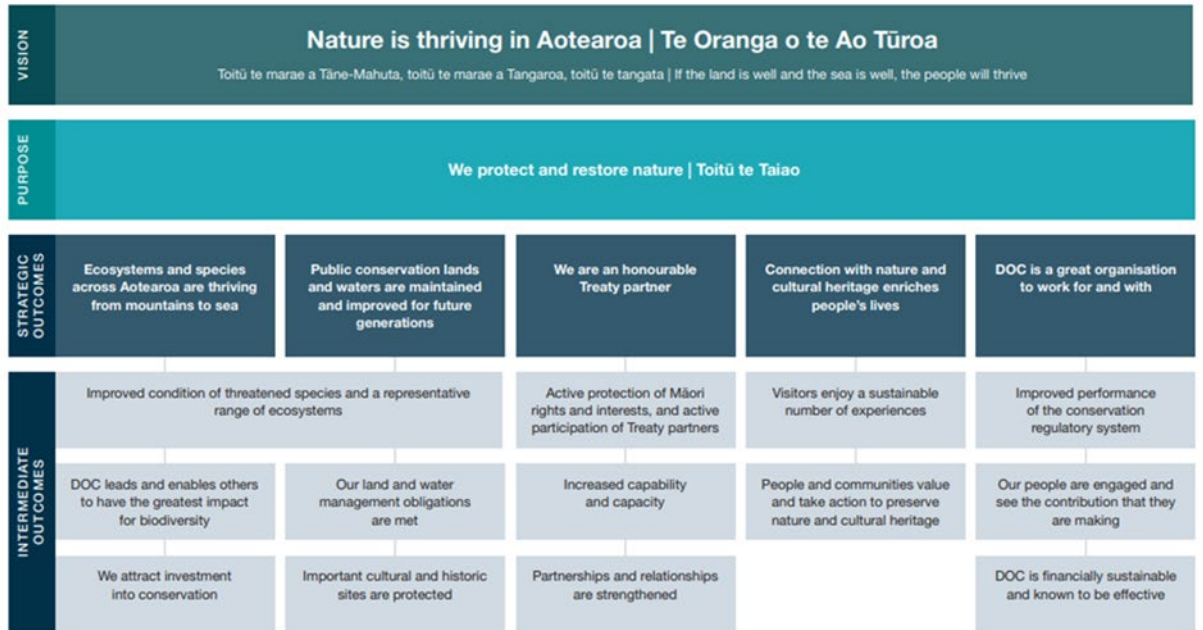
<sup>39</sup> [doc.govt.nz/anzbs-2020](https://doc.govt.nz/anzbs-2020)

<sup>40</sup> [doc.govt.nz/globalassets/documents/conservation/biodiversity/te-ara-ki-mua-framework.pdf](https://doc.govt.nz/globalassets/documents/conservation/biodiversity/te-ara-ki-mua-framework.pdf)

## DOC's strategy

Our work is guided by a strategy that outlines our purpose and outcomes. It lists a range of strategic and intermediate outcomes that are related to wild animal management across New Zealand.

See 'Our purpose and outcomes' on the DOC website.<sup>41</sup>



**Figure A2.1. Our strategy, including our vision, purpose, and strategic and intermediate outcomes.**

*Source: Department of Conservation*

<sup>41</sup> [doc.govt.nz/our-purpose-and-outcomes](http://doc.govt.nz/our-purpose-and-outcomes)

### Appendix 3: Ruahine Forest Park management units

Six management units have been developed to help implement wild deer management in Ruahine Forest Park. Management units make it easier to manage such a large area by considering factors like vegetation and access. The management units for Ruahine Forest Park are:

- (1) North-East
- (2) North-West
- (3) East
- (4) West
- (5) Central
- (6) South

The boundaries of these management units are shown in the map below (Figure A3.1).

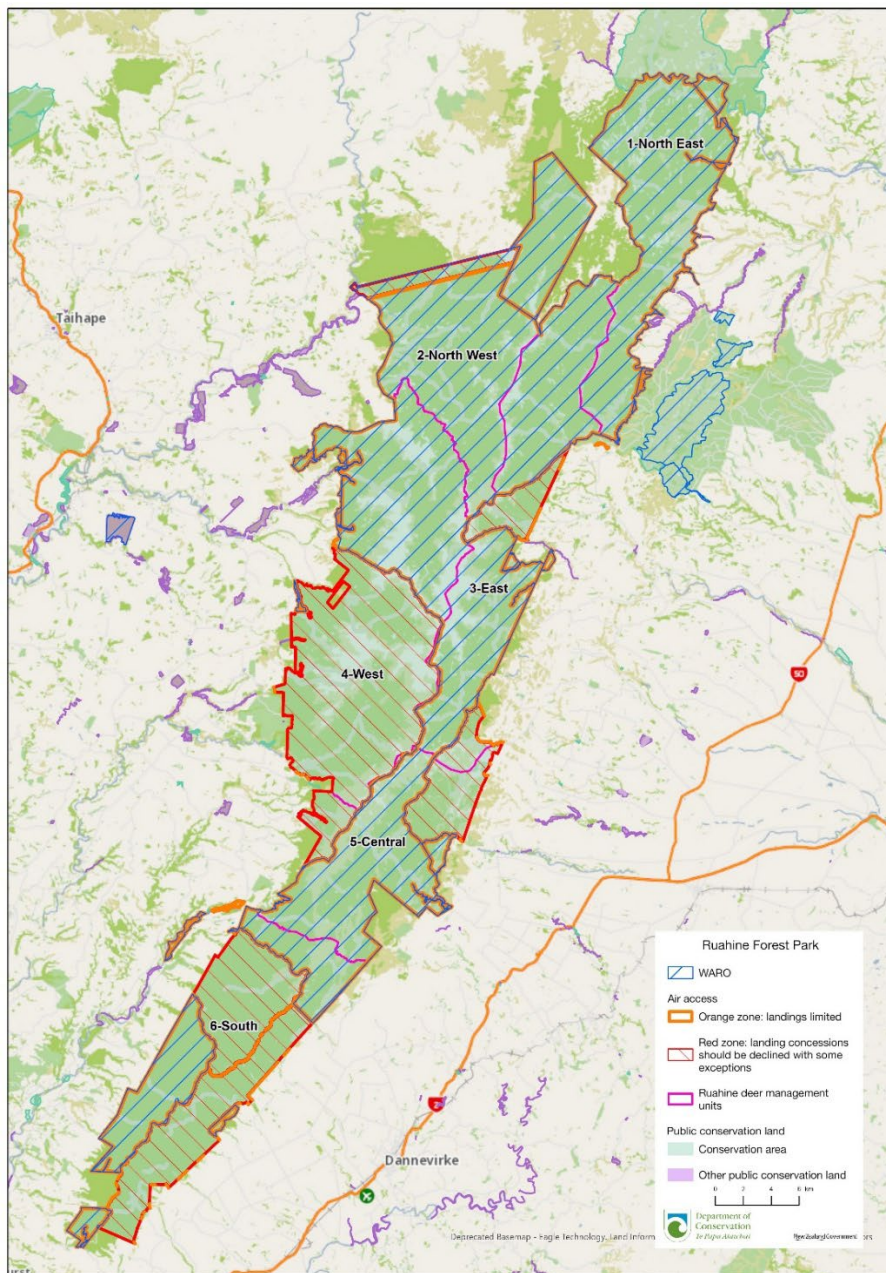


Figure A3.1. Map of Ruahine Forest Park showing management unit boundaries.

## Appendix 4: Glossary of key terms

**Adaptive management** – An approach to managing that involves ‘learning by doing’. Actions are treated like experiments. They are monitored, evaluated and adjusted over time based on what works best.

**Annual Operational Plan** – A yearly plan that outlines actions: what will be done, where and how. It includes hunting actions, monitoring activities and community engagement. It is updated each year based on what we learn.

**Biodiversity** – The variety of living things (plants, animals, fungi and microorganisms) in an area. When biodiversity is healthy, ecosystems are more resilient and can recover from damage.

**Cross-tenure** – Used to describe actions or impacts that span across different land ownerships or management boundaries, including public conservation land, private land and iwi whenua.

**Cultural indicators** – Measures developed by iwi and hapū to reflect the health of the forest from a Māori perspective. These may include the presence of taonga species, water quality or spiritual values.

**Deer Advisory Group (DAG)** – Established by the Department of Conservation in 2024 and composed of iwi, hunters, landowners and community members who help guide deer management in Ruahine Forest Park.

**Ecological integrity** – Used to describe the diversity of native habitats and their ability to support healthy natural processes, native species and ecosystem functions over time. It reflects how intact and resilient these habitats are, including their structure and species composition, and the ecological relationships within them.

**Faecal Pellet Index (FPI)** – A method for estimating deer numbers by counting their droppings. Fewer pellets over time suggests that deer numbers are decreasing.

**Hunting contributes to management** – Hunting is a valued activity and an important tool for wild deer control. It helps protect forest health and biodiversity, while respecting cultural values and tikanga (customs). Both commercial and recreational hunting contribute to management objectives by reducing deer impacts and supporting ecological integrity over time:

**Management unit** – A small area that allows more focused management efforts. These units help tailor actions to local conditions and make monitoring more practical.

**Mātauranga Māori** – Māori knowledge systems, including traditional ecological knowledge, values and practices. It is used alongside Western science to guide decision making.

**Monitoring** – Tracking changes in forest health, deer numbers and community feedback to understand what is working and what needs adjusting.

**Seedling Ratio Index (SRI)** – A method for measuring forest recovery. It compares the number of palatable (deer-preferred) and unpalatable seedlings. More palatable seedlings suggests that the forest is recovering.

**Values** – The beliefs, relationships and practices that reflect how tangata whenua and communities connect with, care for and define the Ruahine Forest Park environment.



Site visit with Treaty partners to Ruahine Forest Park in 2024. *Photo: Department of Conservation*