Manulife
Investment Management

Manulife Forest Management (NZ) Ltd

Forest Management Plan Public Summary

2026

Cover Picture: Tarawera Forest and Mount Putauaki, Kawerau, Bay of Plenty

This is a working document, and as such will be updated periodically as we continually evaluate, develop and refine our forest management plans and objectives.

Contents

1.0 Introduction

The use of wood in modern society can be seen everywhere. From furniture to construction, from packaging to tissue paper and newsprint – wood products play a vital and integral part in our lives. Wood from well-managed forests is a renewable resource that will meet society's economic, social and cultural needs without compromising the environment.

In New Zealand, the primary source of wood is from exotic plantation forests. Manulife Investment Management Forest Management New Zealand Ltd (MFM (NZ)) is one of New Zealand's largest plantation forest manager with forests located in the Northland, Auckland, Central North Island, Bay of Plenty and Hawkes Bay.

This document is intended to provide MFM (NZ) stakeholders with an overview of how we manage our forests and operations taking into account environmental, economic, social and cultural factors.

2.0 Overview of MFM (NZ)

2.1 Background

MFM (NZ) commenced operations in NZ in 2004 with the purchase of Tiaki Plantations Company forests. Formerly known as Hancock Forest Management (NZ) Ltd, the company was rebranded to Manulife Investment Management Forest Management (NZ) Limited in November 2021.

MFM (NZ) manages approximately 215,000 hectares of land in New Zealand on behalf of three clients:

- Tiaki Plantations Company
- Taumata Plantations Limited
- Ontario Teachers Pension Plan (OTPP)

2.2 Estate Description

Tiaki Plantations Company has been under the management of MFM (NZ) since 2004 when Tiaki Plantations Company purchased forests from Kiwi Forests Group. Tiaki's forest estates are entirely forestry rights with no freehold land. Tiaki's two largest forests are Tarawera and Matahina to the south of Kawerau. As the land is harvested, it is returned to the landowners for replanting for the next rotation.

Taumata Plantations Limited's forests were purchased from Carter Holt Harvey Forests in December 2006 and have been under the management of MFM (NZ) since that date. Taumata's forests are located in Northland, Auckland, Waikato, Bay of Plenty and Horizons regions. The forests are made up of freehold, leasehold and forestry rights. The largest forest under Taumata's ownership is Kinleith Forest in the Central North Island.

OTPP New Zealand Forest Investments Limited (OTPP) bought their initial NZ forests in February 2004, which was made up of leases and forestry rights with no

freehold land. In 2023 OTPP purchased additional freehold forests in the Central North Island from GTI8, which included the land under a number of forests that were already owned by OTPP through forestry rights. These forests are owned by the company Waonui Forest Investments Ltd, fully owned by OTPP. OTPP's forests are located in the Waikato, Bay of Plenty and Hawkes Bay region.

The areas of forest managed by MFM (NZ) as at January 2026 are provided in the following table.

Forest Owner	**Total Area (ha)**	**Productive Area (ha)**
Tiaki Plantations Company	10,997	9,427
Taumata Plantations Ltd	150,086	117,408
OTPP (OTPP NZ Forest Investments Ltd and Waonui Forest Investments Ltd)	53,590	42,045
Total MFM (NZ) managed forest	**214,672**	**168,880**

98% of the planted forest area managed by MFM (NZ) is established in radiata pine (*Pinus radiata*) with the remainder largely in Douglas-fir (*Pseudotsuga menziesii*) and *Eucalyptus* species.

The current annual harvest from the estate is approximately 4 million cubic metres of largely radiata pine.

MFM (NZ) also manages approximately 31,580 hectares of protected indigenous reserve areas within the forest estate.

2.3 MFM (NZ) Offices

MFM (NZ) has four offices:

- Head office in Tauranga
- Northern Area office located in Whangarei from which the Taumata Northern forests, including Woodhill Forest, are managed.
- Central Area office located in Tokoroa from which the Taumata Central forests are managed.
- Eastern Area office in Rotorua from which the OTPP, Tiaki and Taumata Eastern forests are managed.

Contact details for each of the MFM (NZ) offices and full maps of the MFM (NZ) managed estate can be found on our website.
https://www.manulifeim.com/timberland-agriculture/global/en/property-management/timberland-operations/new-zealand

Tarawera River, Tarawera Forest, Tiaki Plantations Company estate

2.4 Management Objectives

MFM (NZ)'s primary objective is to return value to the owners of the forests it manages through the development, management and harvesting of productive and high quality forests in a safe and sustainable manner.

MFM (NZ) seeks to achieve its objective through innovative business strategies, proactive management of natural and physical resources and building strong relationships with stakeholders.

MFM (NZ) has a strong commitment to managing the land the trees are growing on for our clients, stakeholders and surrounding communities to ensure the long-term sustainability of our forests under management.

MFM (NZ) actively manages its responsibilities in the areas of biodiversity, soil and waterways protection, reserve management, recreation and public access and protection of historically significant sites within the forest estate.

The following is a summary of the key objectives of MFM (NZ).

Forest Management Objectives

- Manage the forest estate as a renewable and sustainable resource.
- Practice silviculture consistent with best management practice and the maximisation of value to the forest owner.

- Monitor tree breeding to provide the most appropriate stock for the forests.
- Harvest trees as close as possible to the most economically effective age.
- Proactively manage risks to forest health such as fire, pests and disease.
- Create employment and contracting opportunities for members of local communities and lease partners, within the constraints of meeting other performance criteria.

Health and Safety Objectives

- Maintain a safe and healthy workplace free of injuries.
- Develop a workplace culture where health and safety of all people is an over-riding priority.
- Promote collective and individual responsibility for health and safety.
- Ensure that all staff and contractors are trained and competent to undertake their jobs safely.
- Manage the estate in compliance with all health and safety regulations.

Stewardship Objectives

- Manage the estate in compliance with all relevant legislation, including the Resource Management Act 1991 and Heritage NZ Pouhere Taonga Act 2014.
- Manage the estate in compliance with the requirements of FSC ® (Forest Stewardship Council®), NZS AS 4708 and PEFC (Programme for the Endorsement of Forest Certification).
- Minimise negative impacts on the environment and the community.
- Identify and protect areas of significant ecological and scientific value within our managed forests.
- Manage our forests sustainably and minimise adverse effects of forest operations on:
    - soil and water values
    - archaeological and cultural sites.
    - amenity values (visual, noise and air effects) and neighbouring properties.
- Manage and use herbicides responsibly and seek to minimise the use of herbicides in our operations as far as practical.
- Capture and learn from environmental incidents through incident reporting, investigation and sharing of learnings.
- Ensure staff and contractors receive appropriate training to comply with the law and the requirements of the company Environmental Management System (EMS).
- Monitor environmental outcomes and research new ways to minimise impacts of forestry operations on the environment, and maximise environmental benefits of forests.
- Recognise the recreational value of the forest estate to local communities and the general public and proactively manage public access taking into account the health and safety of people and environmental impacts.
- Identify areas within our estate that meet the definition of High Conservation Value (HCV), Significant Natural Areas (SNA's) and Significant Biodiversity Values, and manage these in accordance with relevant regulatory and certification requirements.
- Actively pursue initiatives to reduce greenhouse gas emissions from operations under our management.

2.5 FSC® (Forest Stewardship Council®) Certification

MFM (NZ)'s operations in New Zealand have been continuously certified to FSC since 2004 (*FSC Certificate Number SCS-FM/COC-00066P, License Code FSC-C013109).*

FSC is an independent not for profit organisation headquartered in Germany, founded to promote the responsible management of the world's forests. FSC certification is a means by which our investors, customers and other stakeholders can be confident that we are conducting our business legally responsibly and sustainably.

All forests certified by FSC must comply with an international set of 'Principles and Criteria' and the associated NZ FSC standard. The requirements of FSC cover the full range of forest management including environmental, social, cultural and economic requirements.

MFM (NZ) is currently audited by SCS Global Services. We are audited annually to confirm compliance with the standard.

For further information about FSC visit their websites fsc.org/en and anz.fsc.org

A copy of the audit report for our latest FSC audit can be found on the MFM (NZ) website, under the section on Environmental Stewardship.
https://www.manulifeim.com/timberland-agriculture/global/en/property-management/timberland-operations/new-zealand

2.6 PEFC (AS NZS 4708) Certification

PEFC (Programme for the Endorsement of Forest Certification) is another international forest certification system available to the forest sector. Under PEFC, countries develop forest management standards appropriate to the natural, social, physical and economic conditions of those countries with input from local stakeholders. Provided the standard and the standard setting process is able to meet the PEFC requirements, the standard may be endorsed by PEFC and therefore able to be recognised through a common internationally recognised branding system.

In New Zealand, Standards New Zealand oversaw a stakeholder managed process to adapt the Australian Forestry Standard to New Zealand. The resulting Standard, *AS NZS 4708 Sustainable Forest Management* was endorsed by PEFC in 2015. The standard has since been reviewed and updated to be a Trans-Tasman standard covering both Australia and New Zealand. The standard is managed by Responsible Wood based in Australia.

MFM (NZ) became certified to NZS AS 4708 in 2017 (*Certificate Number SCS-NZS-001)*.

For further information about PEFC and visit their website www.pefc.org and www.pefcnewzealand.org.nz

Information about Responsible Wood and a copy of the standard can be found on the Responsible Wood website. https://www.responsiblewood.org.au
Copies of the audit report for our latest NZS AS 4708 audit can be found on the MFM (NZ) website under Environmental Stewardship.
https://www.manulifeim.com/timberland-agriculture/global/en/property-management/timberland-operations/new-zealand

2.7 External Agreements

As a member of the New Zealand Forest Owners Association, MFM (NZ) is bound by the requirements of the New Zealand Forest Accord (1991) and the Principles for Commercial Plantation Forest Management in New Zealand (1995).

The Forest Accord protects remaining indigenous forest remnants within the plantation forest that meet minimum size and quality criteria from clearance and conversion to plantation forest. The Forest Accord predated RMA vegetation clearance rules, to protect indigenous vegetation remnants, well before they were protected by regional and district plan processes.

All New Zealand Forest Accord vegetation in the MFM (NZ) managed estate is identified in the company Geographic Information System (GIS) and is protected.

The Principles for Commercial Plantation Forest Management in New Zealand are complementary to the New Zealand Forest Accord and cover a range of broader principles to promote environmental excellence in plantation forest management, and the protection, preservation and sustainable management of native forests.

3.0 Overview of Forest Operations

3.1 Silviculture

3.1.1 Introduction

Silviculture includes all practices related to the establishment, growth, composition, health and quality of a forest to meet specific objectives.

Production trees are intensively managed by MFM (NZ) to supply a range of wood products including clearwood for appearance uses and high density structural logs for use in construction. Intensive management involves best practise land preparation, planting of improved tree stocks and thinning (removing poor growth and/or form trees to leave a quality final crop).

The key drivers of the choice of silvicultural regime are:

- forecast of future log product demand and price
- costs
- site-related growth conditions
- the characteristics of the tree stocks available

The following sections provide a summary of the principle silvicultural activities practiced on the MFM (NZ) managed estate.

3.1.2 Land preparation and establishment

All harvested areas that are deemed suitable for replanting are planted 12 to 18 months after harvesting. Some areas are retired from production after harvest due to environmental or safety considerations, most commonly to retire particularly steep areas and to increase setbacks off waterways. In the past trees were planted right down to the stream edge. Under our FSC NZ rules, production trees are now required to be set back a minimum of 10m from waterways.

Prior to planting, sites are prepared to assist the seedling survival rate and promote early growth. This involves spraying of weed species, to remove competition for the plantation crop trees and ensure their survival.

In some areas, mechanical land preparation is also undertaken to improve site conditions for tree growth. Soil cultivation and/or mounding machines improve aeration of the soil, allow better root penetration and reduce frost damage. Slash raking is also used as required to windrow logging debris to improve access for planting.

Site specific decisions around the appropriate herbicide rates and if required, mechanical land preparation, are made using a combination of site information (e.g. weeds present, soils and productivity) and the knowledge of experienced and well trained forestry staff.

Land preparation is followed by tree planting, which is generally carried out over the winter months from May to September. The majority of the MFM (NZ) managed estate is replanted with radiata pine at an initial stocking of either 833 or 1100 stems per hectare depending on the region and forest location.

3.1.3 Tending

Thinning of stands is undertaken by MFM (NZ), generally between six to nine years of age, to provide the optimum space for selected crop trees within the stand to grow to maximise their economic return. The aim is to thin out the smaller or poorer formed trees leaving the better formed trees to grow on. Thinning is either carried out manually with chain saws, or mechanically using falling machines on easier terrain. In the MFM (NZ) estate thinning is predominantly 'thin to waste' where the thinned stems are left on the forest floor to decompose.

Shown above is Tree '55' in Kinleith Forest (Taumata Plantations Estate) which was used in the original New Zealand radiata pine breeding selections.

3.1.4 Fertiliser application

The MFM (NZ) managed estate is comprised of a wide range of soil types. Some of these soils are low in key nutrients or mineral required for growing healthy trees. Fertiliser application is only used as required to address deficiencies and maintain forest health. Fertiliser application rates in forestry are significantly lower than other productive land uses, such as farming or horticulture. Foliar sampling and soil information is usued to identify deficiencies and determine the type and amount of fertiliser required.

In the MFM (NZ) estate the main fertilisers applied are:

- Boron – applied aerially
- Reactive phosphate rock – applied by aerial and ground application

- Urea – applied aerially and ground
- Superphosphate – applied aerially
- Di-ammonium phosphate – applied aerially and by ground

3.1.5 Herbicide application

Herbicides are utilised for weed control prior to planting and in the first one to two years following planting to reduce competition and prevent crop mortality. Once the crop trees outgrow the weed and understory species, anywhere between one to three years of age, the trees are 'free to grow' and no further herbicide application is required to manage the growing trees until the start of the next growing cycle, some 28 years later.

Herbicide application is also sometimes required on occasions to control noxious weeds in accordance with the requirements of Regional Pest Management Strategies prepared by Regional Councils.

While it would be ideally desirable to eliminate herbicide use, the practical and economic realities are that some controlled herbicide use is currently unavoidable. For both environmental and economic reasons MFM (NZ) aims to minimise the amount of herbicide used to undertake its management activities. Application rates are based on research and infield trials to reduce herbicide application rates to as low as possible while still maintaining effectiveness.

The main herbicides uses in MFM (NZ)'s operations are:

- Glyphosate and Metsulfuron used for pre-plant weed control
- Terbuthylazine and Hexazinone used for post plant releasing of trees.

Haloxyfop, Picloram, Triclopyr and Clopyralid are also used in smaller quantities to target particular weed problems.

All herbicide spraying is carried out in accordance with New Zealand Standard *NZS 8409:2021 The Management of Agrichemicals* and applicable Regional and District Plan rules. The New Zealand standard ensures that where agrichemicals are handled or used, the practices followed are safe, responsible and effective, with minimal adverse impact on human and environmental health. It also requires that agrichemicals are tracked and usage recorded.

When planning herbicide operations, the planner is required to identify areas which must be protected from herbicide over spraying such as significant native vegetation, wetlands, watercourses, important indigenous habitat and neighbours' boundaries.

In 2006 MFM (NZ) forests were included in the controlled release of the buddleia weevil *Cleopus japonicus* by Landcare Research as a biocontrol for the weed species *Buddleja davidii*. The weevil larvae selectively consume the foliage of Buddleia, and since their initial release, have significantly reduced the need to use herbicide sprays to control the growth of buddleia in our Central North Island forests.

Herbicides are applied to control weeds and reduce mortality and competition for crop trees. Shown above is the trial comparing standard weed control (left) and no weed control (right), over a three-month period, in a one year old radiata pine stand.

3.1.6 Forest Health

A forest health monitoring survey takes place each year to identify any health issues in the growing stands such as disease, pest damage or nutrient deficiencies. The most common disease affecting radiata pine is a fungal disease Dothistroma (*Dothistroma septosporum)* which causes needle cast in radiata pine and can severely slow tree growth. Dothistroma is most prevalent in the Central North Island, where the extent of Dothistroma infection, and therefore the requirement for spraying, is largely dependent on the previous spring and summer weather conditions (warm wet warm conditions increase infection). Dothistroma is controlled using copper based products (cuprous oxide) similar to those used to control disease in home vegetable gardens.

The annual health survey identifies any significant outbreaks of Dothistroma and this is used to develop the annual spray programme. Significant amounts of research have been carried out to ensure that the lowest possible effective level of fungicide is used to control this disease.

The fungal disease Dothistroma is the most common disease affecting radiata pine in the MFM (NZ) managed estate. Shown above is a stand affected by Dothistroma (left) and condition after spraying with copper fungicide (right).

3.1.7 Animal Pest Control

Animal pest control is carried out both to protect the production forest and the indigenous biodiversity values within them. Animal pests that can require control in our plantation forest include possums, wild goats, wallabies, rats, mustelids, rabbits and hares, all of which are introduced species to NZ.

The major animal pest in the forest estate is the introduced possum, which can attack the growing tips of trees causing stem malformation and dieback. Possums are also a major pest to neighbours along the forest boundaries, as they can carry tuberculosis (TB) to livestock. Rabbits, hares and goats can also be a pest in the first five years after planting, as they can eat the tops of young trees and strip the bark.

MFM (NZ) pest control operations are carried out by certified professional pest control organisations. These organisations work within the guidelines of the current pest management strategy to manage animal pests and co-ordinate with complementary organisations such as the Regional Councils, Department of Conservation, the Animal Health Board and other forestry organisations. The optimum method of animal pest control is determined following a review of relevant factors such as the level of damage occurring, the current animal population, the risk of re-infestation, the possible environmental and health effects of the control, and the benefits of the control. OSPRI also carries out possum control on MFM (NZ) forests in some areas, as part of the national TB vector control programme.

Damage to radiata pine (left and centre) caused by possum (right)

3.1.8 Fire Protection

Management of rural fires now comes under the jurisdiction of Fire and Emergency New Zealand (FENZ).

MFM (NZ) managed forests lie within a number of FENZ administrative Regions and Districts, and a number of MFM staff are Approved Persons serving official roles under the jurisdiction of the Fire and Emergency New Zealand Act 2017. MFM (NZ) and our contractors own an extensive array of firefighting equipment, including fire engines. Staff and contractors are trained and are available to respond to any wildfire emergency which threatens the estate or adjoining land.

MFM (NZ) staff and contractors have assisted with control of major fires both within New Zealand, and in Australia, Canada and United States of America.

Fire-fighting equipment at a controlled burn. Now a rare practice, but historically used for site preparation and as an opportunity for fire training.

3.2 Harvest Operations

3.2.1 Harvest Planning

Planning for harvesting of the forest is developed from a long term forest estate model which models planned harvest out for an 80 year period. The long term plan is then refined down to a more detailed five-year plan and then translated into annual harvest schedules. This process involves balancing a range of factors such as predicted forest growth, customer requirements (grade and volume), harvesting capacity, access, third party ownership requirements, clear fall catchment limits and environmental constraints.

MFM (NZ) aims to harvest its estate as close as possible to the optimum tree age for each stand.

MFM (NZ)'s managed estate has a relatively even age class distribution, resulting in a relatively consistent level of harvest year to year. MFM (NZ)'s long term planned harvest for the next two decades sits at between 4 million and 4.8 million m3 per annum.

All harvesting and engineering operations must be carried out in accordance with the National Environmental Standards for Commercial Forestry (NES CF). Harvest planning is carried out by experienced harvest planners who consider all possible options for access and harvesting of the block to arrive at the optimal solution. Key factors that are considered in harvest planning include:

- Health and Safety – the method that is the most appropriate for the topography and nature of land so that the potential for injury is minimised
- Environment – the method creates the least impact on the environment and ensures that significant environmental values are protected
- Financial – the method is the most practical and cost effective for the area taking safety and environmental considerations into account.

A key aspect of harvest planning is identification of all environmental risks of the operation, and specifying controls to manage those risks and to ensure compliance with all legal, certification and company requirements including resource consent conditions and permitted activity rules.

3.2.2 Harvesting

MFM (NZ) is committed to adopting harvesting techniques and technology that minimise the impact on the environment and reduce the risk of accidents and injuries.

Harvest operations in Waituhi Forest, Taumata Plantations Limited estate

Harvesting is undertaken by two key methodologies:

- Ground-based harvesting: Carried out on easier terrain (generally <25 degrees) trees are felled and extracted by machine to a processing area. In ground-based terrain, all falling is now carried out with mechanical harvesters to minimise the risk of injury during the falling operation. Only a very small proportion of ground based country is manually felled where an area is practically inaccessible to machinery. The stems are typically transported to the processing area by skidders or forwarders, and in some instances by shovel logging.

- Cable harvesting: Carried out on steeper country (generally >25 degrees) fallen stems are extracted through the use of a hauler (either swing yarder or tower) with trees attached by strops to a cable and hauled to a processing area. In the past falling on cable country was almost universally carried out manually by chainsaw. The advent of tethered harvesting, with falling machines operating on steeper slopes tethered by steel cable to a winch system has significantly extended the range of falling machines onto steeper country. In MFM (NZ) operations around 80% of cable terrain is now mechanically felled with the

remainder still manually felled due to practical constraints to accessing areas with a falling machine.

The current harvested volume from the MFM (NZ) managed estate is approximately 4 million m3 per annum.

4.0 Health and Safety

4.1 Introduction

At MFM (NZ) our goal is that everyone goes home safe every day. We believe in a culture where the health and safety of all people is an over-riding priority. Work should only be done if it can be done safely.

A copy of the MFM (NZ) Health and Safety Policy is attached in Appendix I.

4.2 MFM (NZ) Health and Safety Strategy

MFM (NZ) has developed key strategies to achieve our health and safety objectives. These are summarised below.

Leadership

Leadership is the single most important element of our strategy. Active, visible and consistent leadership is critical to our achieving world class safety results. Leaders include not just the MFM (NZ) Board and senior management but also front line leaders and employees who step up to lead.

We will lead by example and work to instil a culture where safety is consistently seen as the highest priority in our business.

A key role of leaders is to enable the shift to an employee driven culture where every employee has ownership of safety processes and activities within their work area. Leaders provide the time, tools, resources, coaching and support necessary for employees to successfully lead the activities for which they have taken ownership.

Employee engagement is seen as a cornerstone to achieving an outstanding safety culture. Our goal is to create a workplace where everyone working in our operations is fully engaged and empowered to do their part to achieve a safe workplace and where safety is seen as the collective responsibility of all of our people.

Key initiatives include:

- Targeted ongoing leadership training programmes and mentoring to improve the standard of health and safety leadership at all levels of the organization.
- Effective health and safety committees at each level of the organization with meaningful contractor input to drive continuous improvement and innovation in health and safety management.

- Positive engagement and two-way communication with staff, contractors and their employees to develop a strong safety culture and achieve continuous improvement.
- Maintenance of a drug and alcohol free workplace.
- Ensuring health and safety is a key measure when engaging and managing staff and contractors, and measuring their performance.
- Recognition of excellence in health and safety performance.
- Monitoring of health and safety culture via periodic independent audits by health and safety specialists to monitor any changes and areas of key focus to improve.

Basics done well

We believe 'doing the basics well' is a key foundation for achieving our health and safety goals. It is our aim to have strong, effective and practical systems that are well understood and adhered to, meet or exceed regulatory requirements and focus on the things that make a difference to keep people safe.

We will ensure that staff and contractors are well trained and have the appropriate skills and tools to support them to make the right decisions on the job, every time.

Key strategies to support these goals include:
- Maintaining clear and fit for purpose policies, systems, procedures and work rules that align with regulatory requirements and are regularly reviewed and updated where required.
- Periodic external review of our systems to benchmark our processes and drive continuous improvement.
- Provision of training to ensure staff, contractors and all workers understand the requirements of their roles and are fully prepared for the work they undertake.
- A strong focus on identifying and managing risk through robust hazard identification and management processes.
- Regular and comprehensive auditing and monitoring to ensure compliance with company systems and legal requirements.
- Accident and incident reporting, investigation and monitoring to ensure key learning's and trends are understood and disseminated to focus effort on those areas that will make a difference and drive continuous improvement.
- Having a clear set of non-negotiable 'life-saving rules' that all employees (staff and contractors) are made aware of with clear consequences for breaches.

Drive for Innovation

We will continually look for ways we can do things better to enhance the safety of our people through both iterative and step change improvements in work practices and systems, year on year. In doing so our goal is to act strategically and always focus on the things that we believe will make the greatest improvement, recognizing this will change over time as solutions for key issues are found and implemented effectively.

We will achieve this through:
- Focusing on the highest risks faced in our operations with the ultimate goal of elimination of manual tasks with a high potential for serious harm or fatality.

- As goals are achieved, undertaking periodic review of operations to identify new priorities.
- Always challenging the status quo and looking for innovative solutions to problems.

Key strategies to achieve these goals include:

- A strategic drive to use technology and/or changed work practices to mechanise the highest risk tasks and minimise worker exposure to hazards that could cause serious harm or fatality.
- Regular periodic review of safety statistics and outcomes of incident investigations to identify those areas of highest priority.
- Use of focus groups (such as Subcommittees of the Peak Health Safety and Environment Committee) made up of staff and contractor representatives to tackle and develop solutions for identified priority issues.

Some key safety initiatives that MFM (NZ) has implemented in recent times are the mechanisation of tree falling using tethered falling machines on steep slopes, the use of GPS monitoring and forward and rear facing cameras in log trucks to monitor driver performance and fatigue levels, and fatigue monitoring and prevention initiatives.

5.0 Environmental Stewardship

5.1 Introduction

MFM (NZ) is committed to maintaining a high standard of environmental stewardship when managing our forests and activities and ensuring the long-term sustainability of our operations.

Environmental effects are a key consideration when planning and managing our operations, second only to ensuring operations are undertaken safely.

The MFM (NZ) Environmental Policy is attached in Appendix I. The following sections provide more information about the key aspects of MFM (NZ)'s environmental stewardship programmes.

5.2 The Environment and Forestry Activities

Forestry activities encompassing silvicultural and harvesting operations can have both beneficial and adverse impacts on the environment depending on the quality of environmental and operational planning and management. Well managed forests can:

- enhance water quality
- stabilise and conserve soil
- provide a buffer against flood flows during storms
- shade waterways keeping water cool for enhanced fish and macro-invertebrate life
- provide habitat for rare, threatened and endangered native species
- sequester carbon to combat climate change, and
- provide recreational, economic and social benefits to the community

On the other hand, poorly managed forestry activities can have harmful impacts, most notably at the time of harvest. MFM (NZ) aims to identify the potential negative impacts that our activities may have and to implement environmental safeguards to prevent or to minimise the negative impact from its operations.

MFM (NZ) implements a range of measures at each stage of its forestry operations to prevent or minimise the adverse impacts of its forestry activities on the environment.

MFM (NZ)'s Environmental Management System (EMS) is the primary tool used for ensuring that company operations meet the highest environmental standards. The EMS details processes to be followed from initial planning through to completion of operations. It also sets out auditing, monitoring and review

procedures which help to ensure continuous improvement of environmental performance.

The EMS sets out clearly the company's obligations, and those of its contractors, to protect identified environmental values in the areas in which we operate. This may include areas such as waterways and wetlands, indigenous reserves, neighbours' boundaries, conservation areas, historic and cultural sites and high value landscapes. Specific procedures, including monitoring the impact of operations, are followed to ensure protection of these areas.

Any forest establishment work, earthworks and harvesting operations that have the potential to impact on areas of high ecological value are identified as high risk. Work in such areas is carefully planned, mapped and prescribed. Specific environmental protection requirements are provided for operators to follow. Operators undergo training and receive specific in-situ advice to ensure they understand the importance of these issues.

Contractors must follow the prescribed plan and monitor their operations on a day-to-day basis to ensure that such sites are being safeguarded. Ensuring that reserve and sensitive areas (e.g. adjacent native bush, wetlands and streams) are not damaged is a focus.

The EMS is designed to ensure that the company follows all the regulatory requirements and meets agreed industry standards.

5.3 Planning of Operations

At the beginning of the planning phase of harvesting, establishment and earthworks operations, it is determined whether a resource consent under the Resource Management Act or an Authority under the Heritage NZ Pouhere Taonga Act is required. MFM (NZ) undertakes consultation with all those parties who may be affected by the operation. Where a consent is required, an application, which includes an assessment of the actual and potential effects of the proposed activity, is submitted to the local authority. The application also provides details of the measures to be used to prevent or minimise adverse effects.

All operations on the MFM (NZ) managed estate must have a Work Prescription in place before work commences. Any site specific environmental constraints are documented in the Work Prescription and identified on the Work Prescription map. Each operation is assigned an environmental risk rating (high, medium or low) based on the characteristics of the site. This alerts the contractor of the relative risk level of the particular job, and is also used by MFM (NZ) to prioritise the frequency of operational and post-operation audits.

Prior to commencing operations, hazard identification is undertaken on site with the contractor to ensure all safety and environmental hazards are clearly identified with controls in place.

Contractors are required to comply with the Work Prescription as well as with any applicable resource consent conditions. Compliance is monitored by MFM (NZ) operational staff during and on completion of operations.

5.4 Protection of Threatened Species

MFM (NZ) is committed to managing our forests to maintain a diversity of indigenous flora and fauna species. Of particular importance are rare, threatened and endangered species living within the estate.

MFM (NZ) has undertaken a review to identify all rare, threatened and endangered species either confirmed or suspected to be present in the estate. Management Plans are progressively being developed for species that commonly occupy plantation forests, with input from Department of Conservation (DOC) and other recognised technical specialists.

Any permanent habitat for threatened species is recorded in the GIS mapping layer as an ecological restriction. This is taken into account during planning of operations to ensure compliance with the Management Plans.

Karearea (NZ bush falcon) are often seen in our Central North Island forests, nesting and hunting in the cutover

In conjunction with other forestry companies MFM (NZ) has supported two threatened species projects researching the NZ bush falcon and long-tailed bat in plantation forests (refer section 6). In both cases the research was aimed at gaining a better understanding of how those species use plantation forest habitats and developing management recommendations to further enhance their success.

Waituhi Forest Blue Duck Project

Waituhi Forest is located east of Taumarunui and bounds onto Pureora Forest Park to the north. Blue duck (whio) utilise the habitat of the Pungapunga Stream that runs through the block into the Department of Conservation (DOC) land above.

Blue duck are endemic to New Zealand and listed as a threatened species (nationally vulnerable) with an estimated 2,000 to 3,000 birds remaining, of which it is estimated around 640 pairs live in the North Island. Blue duck live in clean, fast flowing bouldery rivers and streams located within forested catchments. They establish exclusive territories and strong pair bonds, with a breeding pair occupying the same stretch of river year after year.

As with many of New Zealand's indigenous birds, blue duck are heavily predated by introduced mammals, in particular, stoats. MFM (NZ) with support from Horizons Regional Council, DOC and Genesis Energy established a trapping network over a 5km reach of the Pungapunga stream in 2011. Trapping has been underway since then, with the trapping programme refined and improved over time utilising a range of traps and lures to maximise success.

Each year MFM (NZ) undertakes a population survey using a specialist with a trained whio dog to identify birds and confirm numbers and rearing success. The summer of 2025/26 has been our most successful year to date with four breeding pairs and fourteen chicks recorded.

Whilst the stretch of river within Waituhi forest is at near capacity with five breeding pairs, it is hoped that the trapping of predators will enhance the breeding success of the small population in Waituhi Forest with the reared chicks spilling over into the adjacent Pureora Forest Park.

Adult blue duck on the Pungapunga stream, Waituhi forest

Northland Region Kiwi Recovery Projects

Kiwi were once widespread on mainland NZ but have been greatly reduced by predation, in particular by dogs, cats and mustelids (stoats, ferrets and weasels). Although adult kiwi are relatively robust, kiwi chicks are very vulnerable to predation and typically, only 5% of chicks survive their first year in the absence of predator control.

Northland as a region has the highest remaining population of North Island Brown Kiwi. Many of Taumata Plantation Ltd (TPL) Northern forests contain kiwi which make use of both the native reserves and plantation forest for habitat. MFM (NZ) staff are involved with Northland kiwi recovery groups, actively managing programmes for kiwi recovery.

MFM (NZ) is now involved in kiwi recovery projects in Whatoro, Waipunga, Gammons,Whanui, Ngunguru, Waipu and Rakautao Forests, with approx. 12,600ha of forest now under predator control. Whatoro Forest is located in an area with naturally high kiwi populations and was selected as a priority due to its location between two Department of Conservation (DOC) forests actively managed for kiwi (Trounson and Kaihu Forest Parks). MFM (NZ) joined forces with the Northland Regional Council, DOC and neighbours to develop a Community Pest Control Area (CPCA) over approximately 2,500ha. NRC provided financial support initially to set up and run the project, with MFM (NZ) and the neighbours now responsible for longer term management.

Other community led kiwi recovery projects that MFM (NZ) is involved in include Kiwi Coast, Taheke Landcare Trust, Marunui Kiwi Recovery Projects, Piroa-Brynderwyns Landcare and Ngawha predator control operations. These projects are a great way to support local kiwi recovery initiatives by extending the area of protected habitat, and also creates connections with local communities. These projects all contribute to a network of protected habitat helping to halt the decline of kiwi in the wild in Northland.

Forest workers are provided training on recognising kiwi sign and what action to take should they encounter birds. MFM (NZ) have made a long-term commitment of predator control in forests containing kiwi through our own work and providing support to neighbouring community projects.

5.5 Indigenous Reserves Management

5.5.1 General

MFM (NZ) manages approximately 31,600 hectares of indigenous vegetation remnants located within its estate boundaries. The majority of these reserves are remnant indigenous vegetation that was set aside and reserved at the time of establishment of the plantation forests. Over time, the reserve area has expanded as areas are identified that are not suitable for productive use and are retired from production and managed back to native forest cover.

All reserve land is identified in the company GIS mapping system and managed as permanent reserve. Ecological assessments of all reserve areas have been undertaken by independent ecologists utilising a range of information including:

- Mapping information and aerial photography to identify the location of reserves and site boundaries
- Any previous ecological reports for sites in the forest such as DOC Protected Natural Area Programme (PNAP) or threatened species reports
- Site surveys by qualified ecologists to record vegetation and habitat types and relevant observations of flora and fauna
- At some sites bird recordings were used to confirm presence of indigenous bird species

Survey reports were produced for each region detailing for each individual site:

- A description of flora and fauna values present within the reserve based on previous reports and field visit observations, including any threatened species observed or previously recorded;
- Ecological significance ranking: Each individual site was assessed and given a ranking using Ecological Districts, bioclimatic zones and landform units as the framework. Each site was evaluated against available information about the particular Ecological District using information from the NZ Land Cover Database and relevant DOC PNAP reports for the district. The ecological significance assessment was based on standardised criteria including representativeness, diversity and pattern, naturalness, size and shape, rarity and special features, buffering and connectivity, and viability. Using a standard process, sites were assigned a ranking from Category 1 (largest, highest quality or particular rare ecosystems) down to Category 5 (generally relatively small sites dominated by exotic species). The ecological significance ranking is used as a guide for prioritising site management; and
- Management recommendations for each site where applicable.

MFM (NZ) has an annual programme of reserve restoration work. The ecological assessments form the basis for establishing priorities for work along with other guidance from the Ministry for the Environment (MfE), regional councils and community interests in particular areas. In a number of instances, MFM (NZ) has partnered with local organisations in reserve restoration projects.

5.5.2 Reserves Restoration Projects

The following are some of the key reserve enhancement projects on MFM (NZ) managed lands.

Wetland Enhancement Projects in Central and Eastern regions

Wetlands were once widespread across much of lowland NZ, but their extent has been greatly reduced through draining for farmland. In the Waikato region it is estimated that less than 5% of the original wetland remains. In plantation forests land drainage is uncommon and therefore the original wetland extent tends to be relatively intact in comparison with adjacent farmland.

All areas of wetland ecosystem in MFM (NZ) forests have been identified in the company GIS and mapped as reserve, and many of the larger wetlands have also been identified as Significant Natural Areas under District Plans. While the original extent of the wetland vegetation remains, a lot of the wetland areas in our Central and Eastern region forests have been invaded by introduced weed species, in particular grey willow.

Willow control being undertaken in the Opareiti wetland in Kinleith Forest.

Following the harvest of plantation trees surrounding wetlands, MFM (NZ) staff review replant boundaries and where necessary the boundary is setback further from the wetland to create a protective buffer.

MFM (NZ) commenced a wetland restoration programme in 2007 and each year we complete onging pest plant control. To dates our efforts have been focussed on wetlands in our King Country, Waikato and Eastern Bay of Plenty forests.

Dactylanthus taylorii (Kinleith Forest)

Dactylanthus is a rare plant that is New Zealand's only fully parasitic flowering plant, growing largely underground with the plant growing from a stem attached to the root of a host tree. In response to Dactylanthus, the host's roots mould into the shape of a fluted wooden rose giving the plant its common name of 'wood rose'.

Dactylanthus are also unusual in that they are pollinated primarily by rare short-tailed bats, along with mice and wasps. The host trees are very site specific, occurring only on the margins of podocarp forest in the regenerating shrub/hardwood areas containing mahoe, lemonwood, kohuhu, five finger and lancewood.

Dactylanthus was identified in a reserve in Taumata's Kinleith Forest near Maroa in Taupo District. Dactylanthus is vulnerable to damage by browsing animals, in particular pigs. With assistance from DOC, protective cages have been installed over the identified plant locations and the population is monitored annually.

Flower of the rare underground plant Dactylanthus Taylorii

5.5.3 Management of 'High Conservation Value' Areas

Under the FSC Principles and Criteria, certified forestry companies are required to identify reserves within the forest estate that meet the FSC definition of High Conservation Value (HCV) and develop management plans, as required, to maintain or enhance the high conservation value attributes that define such forests.

Under the FSC Principles and Criteria, HCV's are defined as those reserves that possess one or more of the following attributes:

- ***HCV1:*** *Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).*

- ***HCV2:*** *Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.*
- ***HCV3:*** *Forest areas that are in, or contain rare, threatened or endangered ecosystems.*
- ***HCV4:*** *Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).*
- ***HCV5:*** *Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).*
- ***HCV6:*** *Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).*

MFM (NZ) has undertaken an assessment of the entire estate using a range of data and information sources. The following is a summary of assessment process used to identify qualifying sites under each of the criteria:

- **HCVF 1-3:** To identify sites of ecological or environmental significance (HCVF 1-3) the ecological assessment reports described in section 4.6 were used as the base information, with the ecological ranking used as an initial guide of potential HCVF sites. Wildland Consultants undertook an initial assessment of reserves on the MFM (NZ) managed estate to identify potential HCVF sites. All sites within the estate with an ecological significance ranking of Category 1 or 2 were evaluated under the HCVF definition, and recommendations were made in relation to potential HCVF sites.

  Consultation was then undertaken with DOC and Regional Council biodiversity specialists for each forest region, to review Wildland's findings and provide further input and opinion based on their specialist knowledge.

  In most cases, Regional Council staff utilised assessments of reserve areas carried out by their Councils to identify sites in their region that met Section 6(c) of the Resource Management Act (areas of significant indigenous vegetation and significant habitats of indigenous fauna). Regional Councils have developed criteria for identifying Section 6(c) sites in their region which in most cases is documented in their Regional Policy Statement. Most Councils have commenced identification and mapping of those sites that meet the criteria in their region. Where the Regional Council process had identified a site as nationally significant through this process, this generally corresponded to the site being classified as meeting either HCVF criteria 1 or 2.

  DOC staff also provided advice on the ecosystem values of reserve areas under consideration, and also advised on the significance of known populations of threatened species within the MFM (NZ) managed estate (HCVF 1). A number of known populations of threatened species within the estate were identified by MFM (NZ) as potential HCVF (whio, kiwi, dactylanthus, *Pittosporum turnerrii* and weka). DOC staff were able to identify which sites were considered to be 'nationally significant concentrations' based on their own threatened species management plans and survey information.

Through this process of consultation, a number of sites were identified that consulted parties agreed met one or more of the HCVF criteria 1-3, and these sites have been included in the HCVF list.

- **HCV 4:** An initial assessment of sites that potentially meet HCVF 4 was undertaken by former Hancock Forest Management Environmental Planner Robin Black (a geologist and former Regional Council soil conservator). Consultation was also undertaken with Regional Council staff. It was concluded that there were no areas that meet this criteria.

- **HCV 5:** It was concluded that in a NZ context with publicly funded health and social welfare systems, there are no communities dependant on forests for their fundamental needs (subsistence or health) and therefore no forests were identified under HCVF 5.

- **HCV 6:** Identification of forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance) falling under HCVF 6 has been an ongoing process. A review of recorded cultural and historic sites within the forests was undertaken by MFM (NZ) staff and consultation initiated with relevant tangata whenua representatives to obtain their views. Through this process one HCV site was been confirmed in Kinleith forest, due to the significant cultural values.

The HCV assessment process is ongoing as more information comes to light and understanding of the HCV criteria in the NZ context develops. The HCV list is reviewed and updated each year in consultation with stakeholders where relevant.

A list of the current HCV sites identified on the MFM (NZ) managed estate is attached as Appendix II.

As required by FSC, MFM (NZ) has developed management plans for those areas identified as HCV and is implementing these, in consultation with landowners in the case of lease and joint venture forests. A brief summary of key management actions for each site is provided in Appendix II.

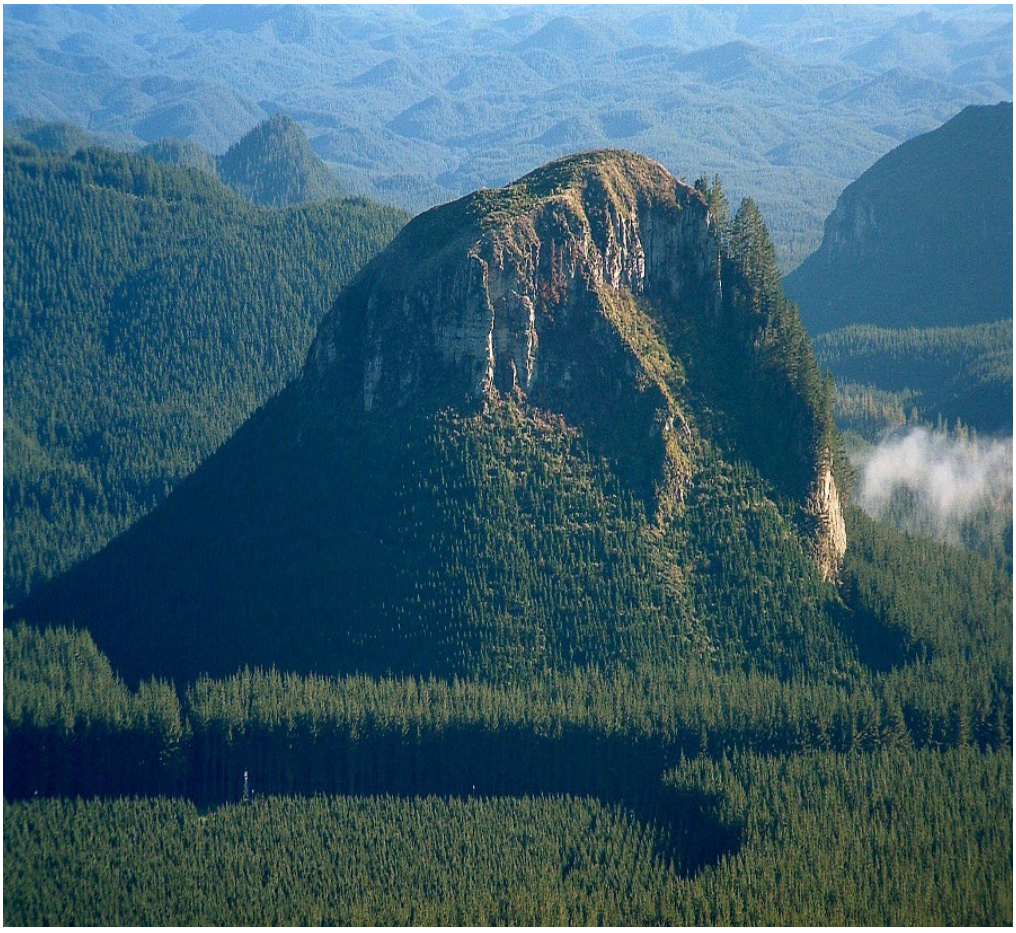
Each area is inspected annually to monitor the condition of the particular values identified as HCV, to assess the effectiveness of any management actions undertaken and to determine the need for any further active management.
In all cases the annual monitoring has shown no deterioration in the HCV values, with ongoing minor improvements due to management actions. For Cook Rd Forest HCV area in Whatoro Forest Northland, the area was identified as HCV due to its significant population of North Island Brown Kiwi. Annual call count monitoring is showing a steady increase in the kiwi population due to ongoing predator control.

Copies of the management plans and monitoring results for any HCV site can be made available upon request.

5.6 Historic Sites Management

A number of the forests managed by MFM (NZ) contain significant numbers of historic sites and waahi tapu as a result of early human occupation. Unrecorded sites are also regularly found during the course of harvesting.

Historic sites are vulnerable to damage when undertaking earthworks and harvesting. MFM (NZ) has a Historic Places Management Procedure, which specifies the procedures that must be followed when working around archaeological sites, either known or discovered during the course of the operation.



Pohaturoa, near Atiamuri in Kinleith Forest. The maunga is of cultural importance to the Raukawa, Te Arawa and Tuwharetoa people. Due to past occupation the maunga has numerous archaeological features (house sites and kumara pits). The site has been identified as an HCV area for cultural reasons.

All known sites are recorded in our GIS mapping system and taken into account in planning of operations. No operations are undertaken which could potentially damage or modify an archaeological site without the necessary Authority from Heritage New Zealand Pouhere Taonga. Once the Authority is obtained this becomes part of the Work Prescription of the operation to ensure conditions of the Authority are complied with.

When a notable site is identified during an operation, the procedure requires all work to cease within 30m of the site and the site is visited by an archaeologist and, in the case of Māori sites, local tangata whenua representatives. If the feature is confirmed as an archaeological site, an operational plan is developed with input from the archaeologist and iwi representatives and, if necessary, an authority is sought from Heritage New Zealand Pouhere Taonga.

In areas of forest with a high likelihood of new sites being discovered, all staff and contractors are provided training on identification of archaeological site features and procedures that must be followed in the field. As a result of this training and the systems we have in place, a considerable number of sites that have not been previously recorded have been identified and protected in the course of routine forestry operations.

5.7 Environmental Incident Management

While MFM (NZ) strives for excellence in the performance of its forestry activities it is inevitable that incidents will occur on occasions. When the company becomes aware an incident has occurred, it acts promptly to minimise and remedy adverse impacts on the environment. All incidents are required to be reported and significant incidents are investigated to ensure staff and contractors learn from the experience and management processes are reviewed and revised to avoid repeat incidents.

5.8 Climate Change

MFM (NZ) and our clients recognise that climate change is one of the most serious environmental challenges facing the planet. Plantation forests sequester large volumes of carbon dioxide as they grow, which is in then locked up in the wood for the period of time the forests are growing and even after harvest while the wood remains in use.

MFM (NZ) monitors the carbon emissions and sequestration from our operations and clients forests each year. Currently our client's forests store approx. 97 million tonnes of CO_{2e} (carbon dioxide equivalent). To put that in perspective, NZ's total annual emissions in 2023 were 76.8 million tonnes of CO_{2e}.

Wood products are a responsible choice for combatting climate change as compared to any of their higher carbon alternatives. Wood fibre is also increasingly being used in NZ as an alternative fuel source to replace fossil fuels, particularly in industrial situations such as to replace coal in boilers.

Despite the clear benefit of forests and wood, our harvesting and log transport operations do involve a large amount of heavy machinery powered by fossil fuel. In 2025, MFM (NZ)'s Scope 1 direct emissions were 586 metric tonnes of CO_2e while Scope 3 operations, including production, transport and shipping to customer, emitted an estimated 144,202 tCO_2e. MFM (NZ) and our clients are committed to reducing emissions from our operations through process improvement and introduction of equipment powered by lower carbon fuel sources. Working with our contractors we are pursuing initiatives to reduce emissions through improved efficiency and alternative fuels sources.

6.0 The Community

6.1 Stakeholder Engagement

Through our management of large areas of forest land, MFM (NZ) is an integral part of the communities in which it operates, and as a significant business and employer, contributes to the sustainable development of these communities. Community relations are an important focus for the company and MFM (NZ) is committed to being ethically and socially responsible.

MFM (NZ) strives to actively engage with stakeholders in the many communities in which we operate, and particularly those directly or indirectly affected by our operations. Prior to commencing harvesting in a new area, MFM (NZ) engages with representatives of the local community to keep them informed of plans and develop mitigation strategies for identified concerns. Typically, this includes forest neighbours, residents of any rural access roads affected by logging traffic and tangata whenua.

School students learn about safety around logging trucks from MFM (NZ) staff and trucking contractors, as part of the forest industry's 'Wood is Good' programme run in conjunction with rural schools

Māori are key stakeholders both as tangata whenua and also as business partners and forest landowners. Tangata whenua are actively involved in providing input to forest management decisions, particularly where it relates to environmental impacts and maintenance of biodiversity and ecological values. Tangata whenua are also actively involved in the management of operations around historic sites, and long term management of the sites themselves.

Raukawa Totara Legacy Project

In 2014 Raukawa Charitable Trust raised with Hancock Forest Management their aspiration to establish a resource of plantation grown Totara in the South Waikato for future cultural use by the Raukawa people. The directors of Taumata Plantations Ltd were supportive of the idea and HFM NZ staff worked with Raukawa to identify potential areas for Totara planting. An area of land near the location of the old Te Whetu village within Kinleith was chosen as a suitable site. Known to Raukawa as 'Taranaki', the area had in the past been grazed and was overgrown with blackberry.

The physical work commenced with the clearance of weed species from the area. In August 2015, HFM NZ and Raukawa gathered together, along with many friends and supporters to undertake the first planting on the site. Much like radiata pine, the form of a Totara tree is influenced by its stocking rate and surrounding vegetation. The advice from indigenous tree specialists at Scion was to co-plant the Totara with other native species, to encourage the Totara trees to grow straight and tall. The first planting at the site was therefore the planting of manuka and pittosporum to form the nursery crop.

Totara seed was collected by Raukawa staff from suitable local trees and grown into seedlings in the Scion nursery. In September 2018, the Totara seedlings were ready to be planted and phase two of the project began. Representatives from Raukawa Charitable Trust and HFM NZ were once again joined by many volunteers from supporting organisations.

Longer term, it is hoped that the project will provide a sustainable source of Totara for uses such as waka building, carving and marae restoration. The Totara Legacy Project is certainly one of MFM (NZ)'s longest term stewardship projects, with Totara likely to take 80 years to be ready for harvest. In the shorter term, it is hoped the area will become a special area to be enjoyed by all who visit. The area has been marked by the erection of a 'Po' by Raukawa Charitable Trust, and the installation of a time capsule with information and messages to future generations, to be opened at the time of harvest.

Planting in full swing at the Raukawa Totara Legacy Project site, August 2015

MFM (NZ) has developed a Social Impact Assessment (SIA) Procedure to recognise and manage decisions that may have significant impact on the local community. Key staff receive training in SIA techniques.

MFM (NZ) runs a stakeholder forum in the Central Area attended by a range of stakeholders, aimed at keeping communities informed about our activities and creating a forum for exchange of information and concerns. Consultation in Northland is carried out at the community level where meetings are scheduled when activities occur or change.

6.2 Socio-Economic Conditions

MFM (NZ) has offices in Tauranga, Rotorua, Whangarei and Tokoroa and our contracted workforce is spread through a number of smaller communities in the vicinity of the forests that we manage. The forest estate that MFM (NZ) manages is located in areas of rural New Zealand where there have at times been high levels of unemployment relative to the rest of New Zealand, due partly to the limited range of jobs available in small communities. The economies of these communities are often heavily dependent on forestry or forestry related industries.

The largest town centre in the locality of the Central North Island region forests, Rotorua, also has a strong tourist base, which is enhanced by the plantation forests and their recreational opportunities.

6.3 Employment

Forest management requires educated and well-trained employees, who understand not just their technical roles, but also the impact of those roles on the community and the environment.

MFM (NZ) directly employs approximately 100 staff. In addition, MFM (NZ) clients engage a significant number of contractors who undertake a range of forest management activities from mensuration and forest protection through to engineering and harvesting. MFM (NZ) has also contracted two local organisations to provide logistics and sales and marketing services. Many of these organisations also contract to other forest managers in the area and are major employers, particularly in the Central North Island.

Future employment creation was a major driver for many of the Māori trusts and incorporations who are our lease partners, and in some cases employment provisions are contained within the lease documents. MFM (NZ) strives to employ contractors with local connections and many of our contractors and their employees affiliate to the local iwi and the land on which they are working.

Staff and contractors receive various levels of training on an on-going basis and are encouraged to continuously improve their performance through performance based reward and remuneration systems. MFM (NZ) has an active role in initiating training courses to assist young people into the industry in a number of regions, through support for industry training programmes and coordination with local high schools.

6.4 Recreation

MFM (NZ) forests are used for a wide range of recreational activities, including walking, running, mountain biking, motor-cross, horse riding, pig hunting, deer stalking, quad bike riding, orienteering, and a range of other activities. In many cases, the forest is a major recreation resource for local communities.

Woodhill Forest in particular is a major recreation resource for the Auckland Region due to its location less than 45 minutes from Auckland City. Woodhill receives hundreds of thousands of visitors every year, and has a number of permanent businesses operating recreation activities within the forest.

Access to our forests is, in most locations, managed through a system of access permits. The challenge for MFM (NZ) is to enable reasonable recreational access to the forest, while also ensuring protection of environmental and ecological values, and the safety of both recreational users and MFM (NZ) staff and contractors.

Lease and joint venture forests are generally not open to the public, and access is in most cases managed by the landowners.

MFM (NZ) has made a commitment to cater for recreation in its forests, provided that the recreational activities are compatible with commercial, environmental and safety objectives.

Cougar Mountain Bike Park located in Kinleith Forest, Tokoroa.

6.5 Disputes Resolution

It is MFM (NZ) intention to proactively manage relationships with stakeholders so as to avoid situations that progress into complaints or disputes. However, despite the best intentions such situations will inevitably arise from time to time. It is MFM (NZ) goal to manage all complaints and disputes ethically and proactively so as to achieve timely and mutually acceptable solutions wherever practical, and to avoid creating ill-will with MFM (NZ) stakeholders and risk to the business of MFM (NZ) or compromising the values or reputations of our clients.

MFM (NZ) has a Complaints and Disputes Resolution Procedure which details the steps that will be followed in the event of a dispute. A copy of the procedure can be made available on request.

7.0 Monitoring

7.1 General

MFM (NZ) conducts a comprehensive monitoring programme to aid understanding of the impact of its activities on the environment and the impact of the environment on its ability to grow the best trees. This understanding leads to the development of strategies to ensure the company continues to manage its activities in a sustainable way.

A summary of key results is available in our annual monitoring report which is attached as Appendix IV.

7.2 Operations Monitoring

MFM (NZ) regularly conducts internal environmental audits to confirm operations have been carried out in accordance with work prescriptions and regulatory requirements, and to identify any corrective actions required.

In addition, MFM (NZ) staff undertake bi-annual Environmental Systems Audits with contractors operating in our estate to ensure they are complying with our Environmental Management Systems and company procedures.

Regional Councils also conduct regular compliance monitoring of operations undertaken under resource consents or the National Environmental Standards for Plantation Forestry permitted activity rules.

7.3 Biodiversity Monitoring

MFM (NZ) conducts a range of surveys across the estate to monitor both impacts of forestry operations on indigenous fauna and to monitor the health and changes to populations. The monitoring programme is gradually being extended as Management Plans are developed but currently includes:

- Monitoring of native fisheries in selected streams across the estate. Previously this was undertaken using electric fishing, however recently MFM (NZ)

changed to using eDNA which enables information on species presence to be monitored through DNA analysis of water samples. Monitoring is generally commenced prior to harvesting and repeated during and post-harvest to monitor any changes in fish populations as a result of harvesting.

- Periodic monitoring of rare, threatened and endangered species populations to monitor changes in populations and over time the effectiveness of Management Plans. Current threatened species monitoring in MFM (NZ) forests includes:
    - Kiwi populations in Northland and Bay of Plenty Forests
    - Bat monitoring in a selection of forests each summer
    - Blue duck in Waituhi forest in the King Country
    - Hochstetters frog distribution in Eastern Bay of Plenty forests
- Annual monitoring of HCV sites to monitor the health of particular values resulting in HCV status.
- Bird population surveys and animal pest surveys in selected reserve areas where active restoration is underway.

Staff and contractors are encouraged to report sightings of rare, threatened and endangered species, such as NZ falcon, weka and kiwi. This data is recorded in an MFM (NZ) sightings database. Where appropriate the data is entered into national databases such as the Raptor Association database.

MFM (NZ) and other agencies, including Regional Councils, monitor plant and animal pest species within and adjacent to the estate. This includes some limited monitoring of the impact of pests on indigenous vegetation within the forest and also outside the forest in selected sites.

A Hochstetter Frog in a stream in Waikawa Forest showing both their very small size (the pine needle gives a sense of scale) and their excellent camouflage ability.

7.4 Forest Growth and Dynamics

Forest growth is monitored through a combination of permanent sample plots and regular forest inventory.

Permanent sample plots are established early in the life of a crop, across a wide range of different sites and under different management conditions. They are carefully remeasured at regular intervals, usually annually, until age 10, and then every second year until harvest. Measurements from permanent sample plots provide an accurate picture of long-term growth trends. This data is used to develop growth models applicable to the forest resource and to validate their performance.

Plot measurement and maintenance is managed internally, but the data is processed and maintained on the Scion Permanent Sample Plot System.

Forest inventory is undertaken at regular intervals during the life of a crop. Trees are measured in temporary sample points. The first formal assessment is at about age 10. Up to three further assessments may be carried out, culminating in pre-harvest inventory. These measurements form the basis of the yield tables used to model the likely harvest volume available from the forest estate.

7.5 Sustainability Monitoring

Implementation of processes for monitoring sustainability within the plantation estate is based around a series of permanent sample plots, on representative soil types, which will be maintained over successive rotations.

These plots are being used as sites to monitor:

- Tree and stand growth rates.
- Soil disturbance levels at harvest.
- Soil properties.
- Understorey vegetation.
- Forest health.
- Nutrient content of tree foliage.

7.6 Research Projects

MFM (NZ)'s clients contribute funding to research benefitting plantation forestry through the Forest Growers Levy, introduced in 2014. MFM (NZ) also contributes directly to key research projects related to plantation forestry management.

MFM (NZ) is directly involved with or contributing to a number of research projects to improve understanding of the effects of plantation forestry.

In conjunction with other forest managers, MFM (NZ) contributed to a project to better understand the use of the plantation forest by NZ Long-tailed Bats[1]. Based in Kinleith Forest near Tokoroa, the study involved capturing and tracking bats in the

[1] Ecology of NZ Long-tailed bat (*Chalinolobus tuberculatus*) in exotic plantation forest, Borkin K.M. 2010, University of Auckland

forest to confirm their roost locations and movement patterns. The study revealed, for the first time, the unexpected finding that bats were roosting and breeding in the plantation forest.

In 2024 MFM (NZ) clients supported a Waikato University study to undertake eDNA analysis of bat guano to identify what invertebrate species make up their diet. The final results of the study are still yet to be published.

MFM (NZ) supported a similar project investigating the use of plantation forests by New Zealand bush falcon that took place on the Kaingaroa Timberlands estate[2]. Recommendations from that project are now being implemented through falcon guidelines developed by Wingspan Birds of Prey Trust for the forest industry. The industry has supported ongoing research in Kaingaroa and more recently forests in Dunedin, to continue to develop our understanding of falcon use of forests and how best to protect them.

MFM (NZ) has also provided assistance for a PhD research project analysing the impact of woody debris, based in Houpoto Forest in the Eastern Bay of Plenty. The study was aimed at understanding the effects (both positive and negative) of harvesting debris in a small coastal stream. The study is now complete and the thesis is available through the University of Waikato website [3].

MFM (NZ) clients have also contributed to a study undertaken by University of Canterbury to identify differences in predator abundance in plantation forests vs native, to identify if there are any differences in the pest species present and their densities. The initial phase of this project was funded by the Forest Growers Levy, with additional funding from MFM (NZ) clients and Timberlands. The project is ongoing in the current year.

[2] The Ecological Requirements of the NZ Bush Falcon (*Falco novaeseelandiae*) in plantation forestry, Seaton, R. 2007, Massey University

[3] The physical and biological function of woody debris in New Zealand's forested streams, Baillie, B. R; 2011, University of Waikato

Fitting a tracking device to the NZ Bush Falcon as part of a PhD study, Kaingaroa Forest.

APPENDIX I: Health & Safety and Environmental Policies

Manulife Investment Management

Health, Safety and Wellbeing Policy

Our goal is that everyone goes home safe every day

We believe

- That all fatalities and injuries are preventable
- In a culture where the health, safety and mental wellbeing of all people is the over-riding priority
- That excellence in health, safety and mental wellbeing is crucial to the long-term success of our businesses
- The behaviour of leaders influences safety culture
- Work should not be started if it is unsafe to do so and anyone can and should stop an unsafe act

Our Commitment is to

- Ensure that health and safety is the key performance measure and a core value of our company
- Instill a "Just Culture" where employees and contractors are fully engaged and where health and safety is seen as a collective responsibility
- Continually look for ways we can improve health, safety and mental wellbeing
- Ensure that all workers in our workplace are either trained, deemed competent, or are under training and supervision for the tasks they are performing
- Work together with our employees, contractors and their staff, as appropriate, in the pursuit for safer workplaces
- Encourage employees and contractors to extend their commitment to safety and good health beyond the workplace and into their everyday lives
- Comply with relevant health and safety laws, regulations and industry codes of practices and strive for continuous improvement
- Set targets and objectives that will eliminate the highest risks where reasonably practicable

Employees and Contractors shall share the responsibility and must

- Complete a risk assessment before work is undertaken
- Promptly report incidents, unsafe practices and conditions
- Comply with procedures, training, instructions and the Manulife Investment Management Forest Management (NZ) Limited lifesaving rules

It is only through the collective commitment to good safety outcomes that we will meet our goal that everyone goes home safe every day.

Chris Barnes
General Manager

4 April 2023

MFM (NZ) Health, Safety & Wellbeing Policy 4 April 2023

Manulife Investment Management

Environmental Policy

Our Commitment	Manulife Forest Management (NZ) Limited (MFM (NZ)) is committed to the responsible stewardship of land under our management. It is our goal to deliver value to our investor clients, while protecting the future productivity of the land and ensuring that over time the environmental, cultural and community values of the lands we manage are maintained or enhanced. We are also committed to paying our part in addressing climate change, through pursuing opportunities to reduce greenhouse gas emissions from our operations and managing our client's estate to meet their net zero commitments.
Legal and other requirements	We will operate our business so that we meet or exceed all statutory environmental requirements, relevant Codes of Practice, industry best practice guidelines and agreements as described in the company EMS.
Treaty of Waitangi	We will conduct our business in accordance with principles of the Treaty of Waitangi that are relevant to our operations, as articulated through legislation.
Third party certification	We will maintain third party certification and conduct our operations in accordance with the requirements of the organisations and standards to which we are certified (FSC®, PEFC and AS NZS 4708).
Resources	We will allocate sufficient resources to ensure the responsible stewardship of the forests under our management, and to further develop knowledge of plantation forestry through involvement in industry trials and research.
Training and development	We are committed to training and developing our staff and contractors to ensure that all individuals working on behalf of Manulife Forest Management (NZ) Ltd are competent in meeting the company's environmental requirements.
Systems and practices	We will develop and implement best practice systems and management practices to ensure a systematic approach to forest management and the maintenance and enhancement of the soil, water, biodiversity, cultural, landscape amenity and community values of our forests.
Stakeholder Engagement	We will proactively engage with stakeholders and interested parties so as to ensure consideration of their views in forest management planning, promote constructive community relationships and increase awareness and understanding of our operations.
Continuous Improvement	We will undertake regular reviews of our forest management systems in light of new information, to strive for continuous improvement in our operations and forest stewardship outcomes.

Christopher Barnes
General Manager
4 April 2022

APPENDIX II: Identified HCV Areas in the MFM (NZ) Managed Estate

Site	Forest	HCVF criteria met	Key Management Plan Actions[1]
Pokapoka Stream Wetland	Waiomio	HCV 3: Largest wetland in the MFM (NZ) Northern Estate. PNA (Protected Natural Areas Programme) level 1 site in Tangihua Ecological District (PNA P06-76). Confirmed by Dept of Conservation and Wildlands as a site of national significance.	Review replanting boundary for 2nd rotation replanting. Poison standing pines within wetland margin.
Cook Road Forest	Whatoro	HCV 1: Confirmed by Dept of Conservation as being part of a nationally significant kiwi population in Central Northland, linking Trounson Park to Kaihu Forest park.	Develop animal pest control programme in conjunction with neighbouring properties (with potential assistance from NRC and DOC kauri Coast). Call count monitoring.
Lake Road lake and wetland	Kinleith	HCV3 One of only three natural wetlands in the Tokoroa Ecological District. Confirmed by Waikato Regional Council ecologist to be nationally significant under the Waikato Regional Council Criteria for determining significant indigenous vegetation and significant habitats of indigenous fauna (Waikato Regional Policy Statement).	Continue animal pest control programme. Bird survey Review and control plant pests as required.
Pohaturoa	Kinleith	HCV6: Important historic and cultural site for Raukawa, Tuwharetoa and Te Arawa. Proposed for registration under the Historic Places Act.	Removal of exotic crop carried out in 2000. Annual aerial review of wildling regeneration until site revegetates. Carry out manual removal or aerial spot spray as applicable. Consult with Ngati Raukawa annually.
Houpoto Swamp	Houpoto	HCV1: Recommended Area for Protection. Mapped as part of national wetland study by Landcare Research. Listed by Bay of Plenty Regional Council in their High Value Ecological Sites list (HVES 119), and identified in the list as a site of national significance (Site SVHZ-181).	Initial plant pest control completed targeting willow and pampas. Currently consulting with landowners (Houpoto Te Pua Lands Trust) regarding future management requirements. Carry out plant pest control as required.
Te Ranginui Wetland	Orete	HCV3: Rare kahikatea swamp on Holocene land slide.	Plant pest control underway targeting

Site	Forest	HCVF criteria met	Key Management Plan Actions[1]
			willow and wilding pines. Wetland boundary extended following harvest of the surrounding pine forest.
Tokerau Wetland	Tokerau A11 Forest	HCV3- rare or threatened ecosystem. Wetland ecosystem, Kahikatea/swampland	Work with landowners to achieve stock exclusion. Plant pest control.
Tuhoe Wetlands (4 in total)	Tuhoe Forest	HCV3- rare or threatened ecosystem. Wetland Ecosystem, Leptospermum/coprosma.	Work in with landowners and BOPRC to undertake plant pest control and exclude horse access to wetland.
Tikitere geothermal reserves (5 in total)	Tikitere	HCV3- rare or threatened ecosystem. Rare species, geothermal system.	Wilding pine removal. Annual Monitoring
Tikitere wetland	Tikitere	HCV3- rare or threatened ecosystem.	Annual monitoring
Matai Rd Forest	Matahina	HCV3 – rare or threatened ecosystem. Large lowland indigenous forest remnant in an area now predominantly converted to pine forest and pastoral farming.	Annual monitoring. Deer fencing to exclude ungulate grazing. Animal pest control.

Notes:

1. Management Plans for individual sites are available to interested parties on request from MFM (NZ)
2. Further sites have been identified as potential or proposed HCVF sites pending further discussion with Department of Conservation, Regional Councils and landowners. These will be added to the list as confirmed.

APPENDIX III: Monitoring Summary

Manulife
Investment Management

MFM (NZ) Public Monitoring Summary

2025

Forest Health

Health and Safety

Environment

Contents

1. Introduction

The purpose of this report is to describe the range and general results of monitoring programmes that are undertaken by Manulife Forest Management (NZ) Ltd (MFM (NZ)).

The Public Monitoring Summary is produced as a requirement of MFM (NZ) Forest Stewardship Council® (FSC®)* and AS NZS 4708* commitments. This document provides a summary of the key indicators monitored by MFM (NZ) that are not confidential.

Further information can be provided on request. Please contact MFM (NZ) by email mfmnz@manulife.com or phone 07 571 7900.

(**FSC License Code FSC-C013109, PEFC License Code PEFC/40-23-2).*

2. What MFM (NZ) Monitors

MFM (NZ) undertakes routine monitoring in a range of areas including:

- Forest Growth and Dynamics
- Forest Health
- Health and Safety
- Recreation
- Consent compliance
- Carbon
- Biodiversity

Key monitoring results are summarised in the attached report. Further results are available on request where they are not confidential.

Additional environmental monitoring that is undertaken but not reported here includes:

- Historic sites – all registered archaeological sites are monitored post-harvest by an archaeologist.
- Environmental Incidents – all incidents are recorded into a database where they can be investigated, tracked and closed off.
- Environmental Operational audits – operations are audited and monthly and/or at the completion of the operation against the company EMS Environmental Standards.
- Environmental System audits – carried out on contractors every two years to monitor compliance with the company EMS.
- Internal Environmental Management System Audit – every year an audit is undertaken of our own operations to ensure we are complying with our EMS.

3. MFM (NZ) Growth and Yield Monitoring

3.1 Permanent Sample Plots (PSP's)

Forest growth is monitored by maintaining and measuring a network of permanent sample plots (PSPs) distributed across the Estate. MFM (NZ) establishes PSPs in five-year-old stands at a sampling intensity that meets the required confidence level. Forests with few existing PSPs are sampled more intensively—around one PSP per 200 hectares—while forests with an established PSP network require fewer new plots. Stands are re-measured annually between ages five and ten, biennially from eleven to fifteen, and every three years from age sixteen. Where practical, an additional final pre-harvest measurement can be completed.

In addition, PSPs are installed in some high-value applied research trials. These trials often focus on specific attributes, such as the effects of tree stock improvements, and offer an opportunity for more intensive, site-specific monitoring compared with the extensive growth-monitoring PSP network.

There are also several trials established by external agencies on MFM (NZ) managed land. Measurement of these trials is undertaken by an external agency, and, with the approval of MFM (NZ), the resulting data frequently contribute to research projects at the national level. MFM (NZ) typically retains the right to access this measurement data and therefore it can be used for internal monitoring purposes.

PSPs are assigned a status of current, abandoned or felled. Current PSPs remain part of the measurement programme until they are harvest when their status changes to felled. PSP are only abandoned due to a catastrophic event such as wind damage. The data from abandoned or felled PSPs remains accessible, allowing insights over multiple harvest rotations. There are 1567 current PSPs within MFM (NZ) area of management.

Number of PSPs as at 1 January 2026		
Property	Region	Total
Taumata	Northern	533
	Central	706
	Eastern	72
Tiaki		106
OTPP		150
Total		**1567**

3.2 PSP Measurement

The total number of measurements undertaken on MFM (NZ) managed PSPs has averaged 261 per annum over the past three years. Typically, measurement consists of measuring all tree diameters and the total height of a sample of trees. The work is undertaken by independent contractors, and the data is recorded using bespoke data capture software with real time data validation. Measurement is typically undertaken in winter when tree growth is at its lowest. The data is stored securely by a third party who provides further data quality assurance.

Number of PSPs measured by MFM (NZ) as at 1 January 2025							
Property	Region	2020	2021	2022	2023	2024	2025
Taumata	Northern	3	67	39	52	64	50
	Central	185	97	102	177	89	93
	Eastern	17	20	22	51	22	23
Tiaki		10	17	8	10	6	4
OTPP		8	35	51	31	55	57
Total		**223**	**236**	**222**	**321**	**236**	**227**

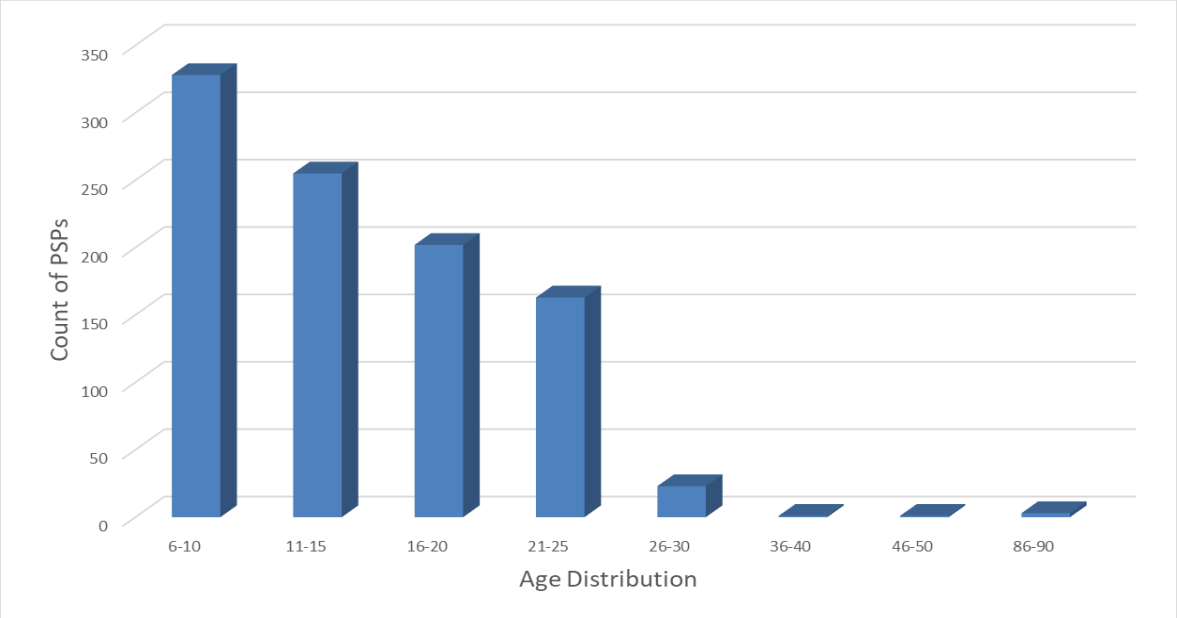
3.3 Establishment

New PSPs are established each year. Approximately 15 to 20 new PSPs are established annually. No PSPs have been established in Tiaki because the youngest age class was established in 2004.

New PSPs established by MFM (NZ) as at 1 January 2025							
Property	Region	2020	2021	2022	2023	2024	2025
Taumata	Northern	0	3	6	8	10	7
	Central	7	6	6	5	6	9
	Eastern	3	1	2	2	0	0
Tiaki		0	0	0	0	0	0
OTPP		4	5	4	6	7	4
Total		**14**	**15**	**18**	**21**	**23**	**20**

3.4 Age Class Distribution

A proportion of the PSP's within MFM (NZ) management area measured by external parties have been measured inconsistently. Of the 1567plots currently in the database 1236 have received measurements during the last six years, representing eighty percent of current PSPs. Within these, 93% age 30 or less. This is consistent with the average radiata pine rotation age of less than 30. This illustrated in the below graph.



4. Forest Health Monitoring

4.1 General

Forest health monitoring is undertaken in the MFM (NZ) managed estate at two levels:

- Type I Monitoring
  - Forest health surveillance: The focus is on coverage of the whole estate and a wide range of disorders.
- Type II Monitoring
  - Specific surveillance of a particular disorder. This includes:
    - Foliage sampling for nutrient deficiencies
    - Survey for Dothistroma (*Dothistroma septosporum*) infection

4.2 Forest health surveillance

All forest areas are surveyed annually by an independent forest health specialist. The survey comprises a combination of:

- aerial surveillance
- surveys carried out by driving through portions of forests.
- 'investigative' health plots – to check on symptoms observed either from the air or drive through surveys.

It is primarily designed to give an acceptable probability of detecting new injurious organisms in time for effective eradication/mitigation or control. A secondary objective is to provide an indication of how forest health is changing over time and how forest management may be impacting on any trends.

4.3 Foliage sampling

MFM (NZ) carries out an annual foliage sampling programme for Radiata pine and Douglas-fir to ascertain the nutritional status of selected stands (e.g. age 4 year stands). Fertiliser is applied to stands identified with nutrient deficiencies.

Foliage sampling also allows changes to be monitored in nutrient levels throughout the growth of a stand and/or for successive rotations.

4.4 Dothistroma

Dothistroma septosporum is a fungus that affects radiata pine and causes needle cast. While it rarely kills trees, it can severely affect growth. Dothistroma primarily affects stands of radiata pine between 2 and 16 years of age (i.e. the susceptible area), particularly in the Taumata Plantations Ltd (TPL) Central estate.

Each year susceptible age classes are assessed by an aerial survey. Stands that have an infection level greater than 15% are sprayed once in that year with cuprous oxide. Areas with heavier infection (>25%) are sprayed twice in the year.

The total area sprayed each year (1st and 2nd spray) has been recorded for the TPL Central estate since spraying began in 1966 (Figure 2). The area sprayed each year is mostly a function of the susceptible age class, as well as the previous summer weather conditions (i.e. wetter summer produces higher disease levels).

Dothistroma is also managed pre-emptively through silvicultural practices such as:

- planting dothistroma resistant tree stocks (i.e. through genetic improvement) in high risk areas.
- maintaining a lower number of crop trees at planting.
- post-plant releasing which improves stand ventilation.
- early thinning to promote air circulation within the stand.

The following graph shows the actual areas of forest requiring treatment each year as compared to the area of trees at an age and location susceptible to dothistroma.

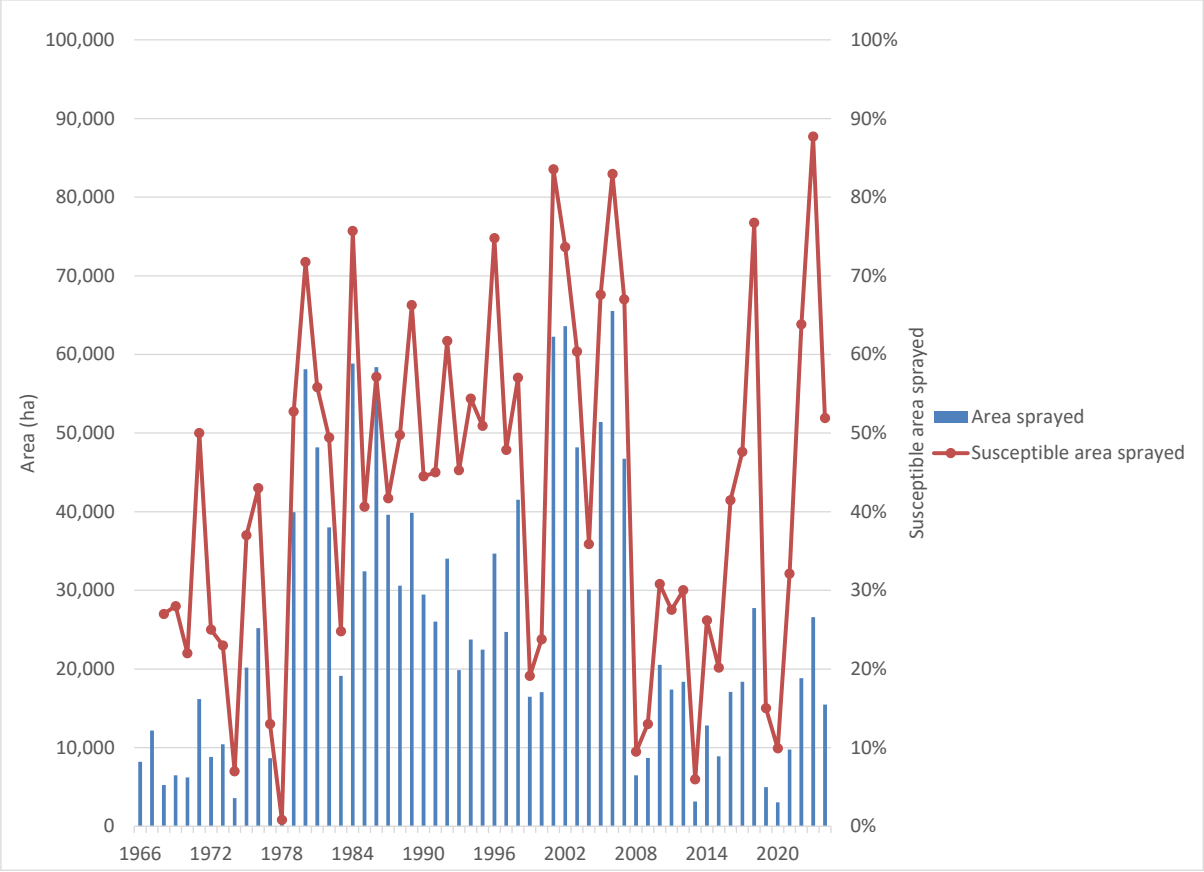


Figure 2: Dothistroma - Actual spray area and as a % of susceptible area - TPL Central estate (1966-2024)

5. Chemical Use

MFM (NZ) records the amount of chemical used in each of its forest management operations. A detailed analysis is documented as part of annual reporting required for FSC and NZS AS 4708 certification. Figure 3 shows the herbicides and the amounts applied on the MFM (NZ) estate from 2007 to 2025, for entities currently under management.

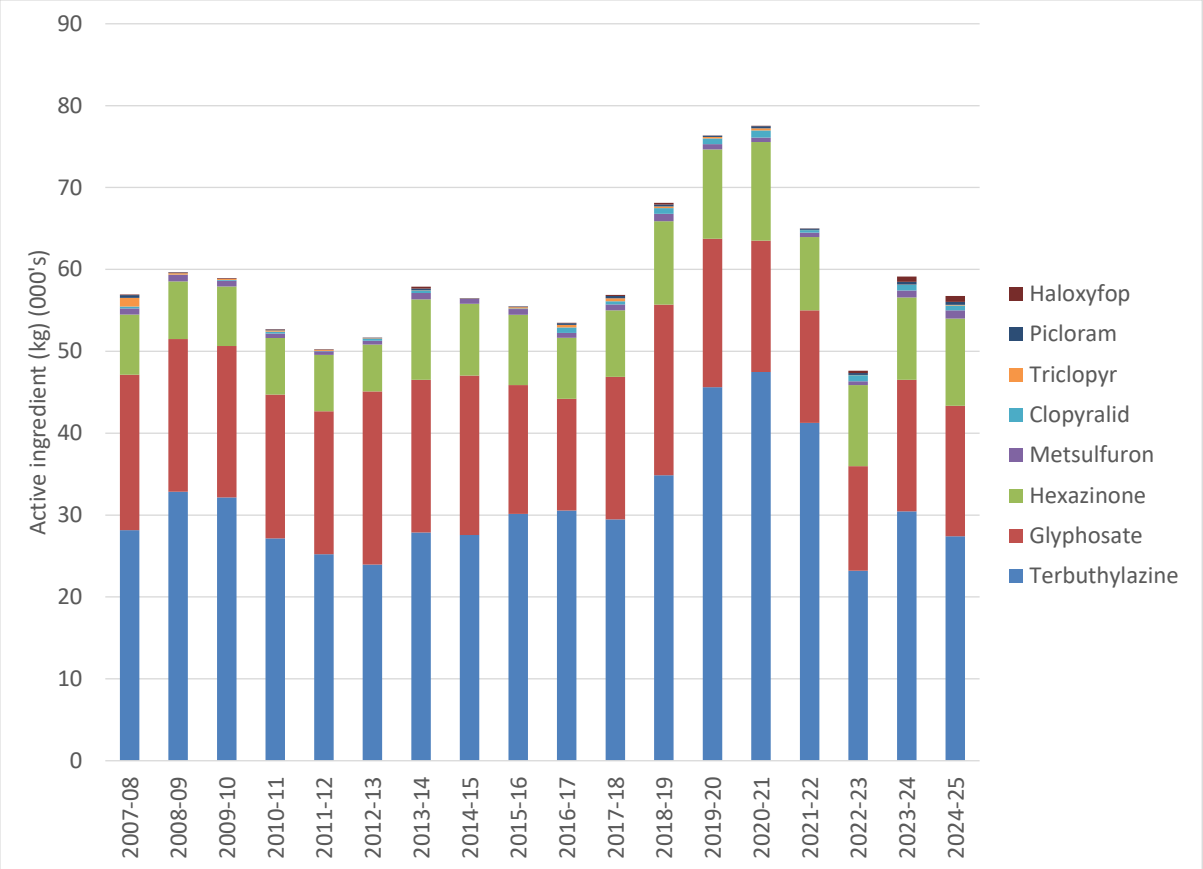


Figure 3: Volume of herbicide (active ingredient) used in MFM (NZ) forest operations 2007-2025 (note additional area of forest was included in 2018 and 2023 due to MFM (NZ) taking on the management of the OTPP and WFIL estates respectively)

6. Health and Safety Monitoring

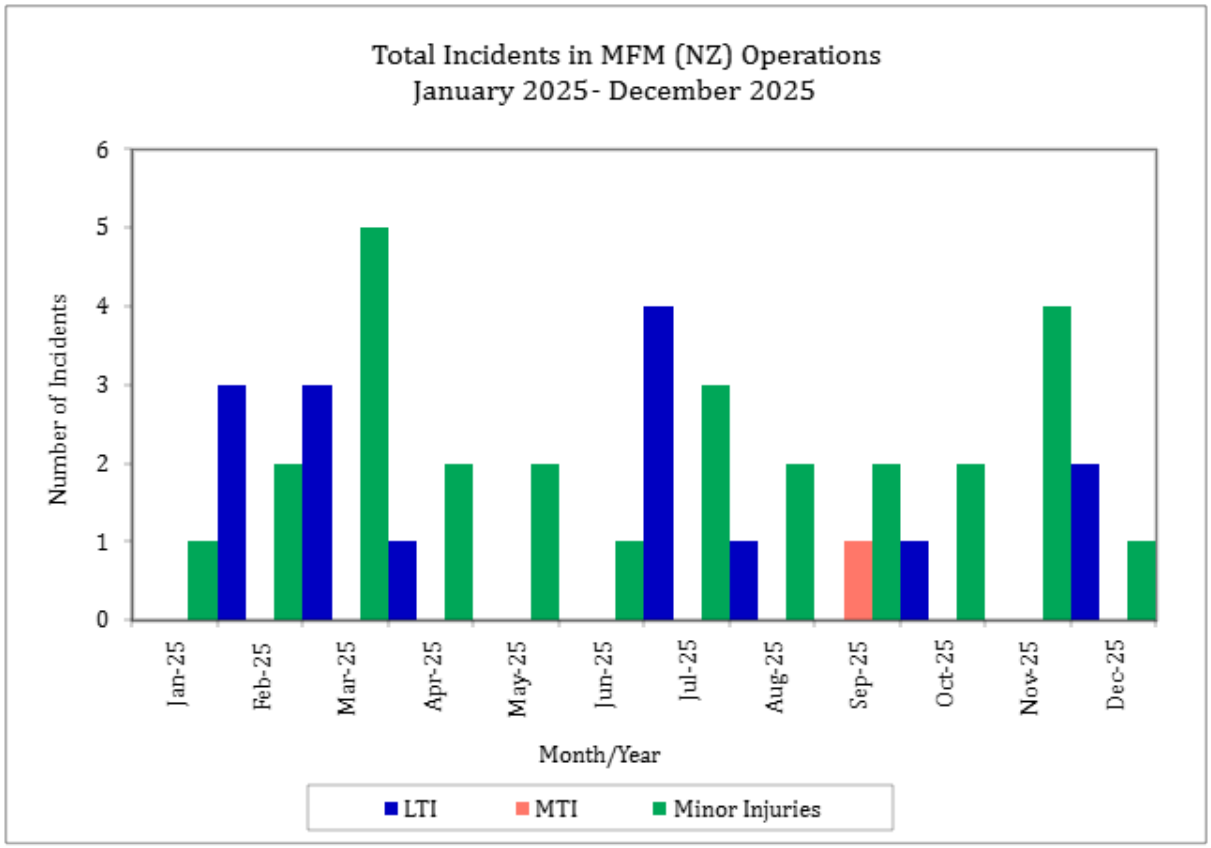
MFM (NZ) monitors a range of leading and lagging safety indictors.

The following table summarises the frequency and severity of lost time injury incidents (those that require time off work) and medical treatment injuries for all MFM (NZ) managed operations. The results are reported as an injury 'rating' based on the number of incidents per million hours worked as follows:

- LTIFR: Number of Lost Time Incidents per million hours worked.
- MTIFR: Number of Medical Treatment injuries per million hours worked.
- TIFR: Total incident frequency rate

Client	LTIRF	TIFR	MTIFR
Taumata Plantations Ltd	6.9	7.7	0.8
Tiaki Plantations Company	12.6	12.6	0.0
OTPP NZ	8.9	8.9	0.0
MFM (NZ) Clients	**8.1**	**8.6**	**0.5**
Industry Peer Group	**7.3**	**14.6**	**7.3**

The following graph shows the total number of Lost Time injuries (LTIs) and Medical Treatment Injuries (MTIs) across MFM (NZ) operations in the 2025 calendar year.



7. Recreational Use

7.1 Permits

A range of recreation is carried out in many of MFM (NZ) forests however the method of managing access varies by forest and by region. All of the MFM (NZ) client freehold forests access is managed via permitting through each region. Access to lease and joint venture forests is typically managed by the landowners and outside of the terms of leases and forestry rights.

Permits are issued for a range of access from one off events, through to an ongoing activity for a season or year e.g. hunting over a season. In some instances, a single permit is issued for a club which operates multiple events in weekends over a three-month period.

7.2 Northern Region

Northern data does not include recreation that occurs at Woodhill Forest, Ngatihine or Taheke Forest which makes up approximately 34% of the Northern managed estate and receive a significant amount of recreational use. These forests are lease forests where the owners manage recreational access.

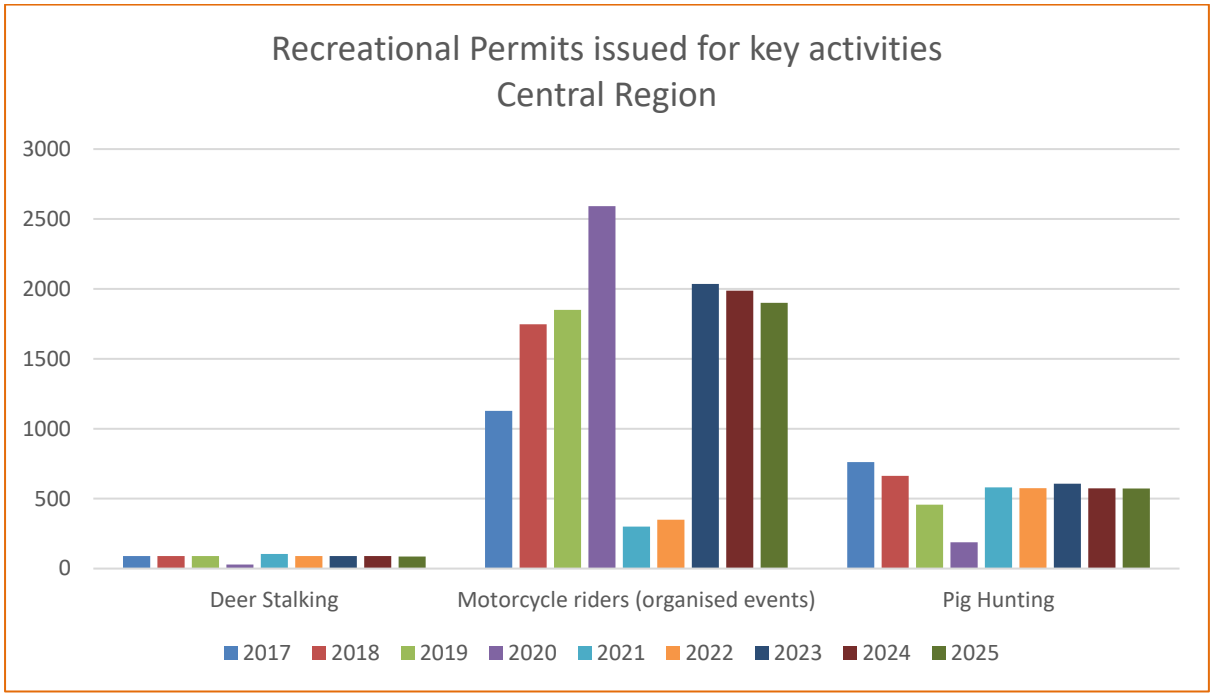
Most clubs based in Northern Forests operate under a License to Operate and they manage their individual club membership or events through their own permit system. Examples of this is the Mt Tiger Archery Club (approx. 75 members), Rotu Piston Club (approx. 40 members), and

Whangarei Mountain Bike Club (approx. 25 members, with about 200 informal riders). These clubs hold and manage their own events.

Permit	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total number of permits issued	115	191	202	204	185	558	471	513	647
Total number of recreation permits issued	55	94	125	143	119	309	283	308	372

7.3 Central Region

Access to the Central Region freehold forests is managed via access permits. The largest recreation users in terms of total numbers, are hunters and motorcycle events. The following graph shows the trends for the number of deer stalking and pig hunting permits, and attendees at organised motorcycle events over time.



Horse riding is managed by the Waikato Endurance Club, with approximately 120 members utilising the designated horse-riding area in Kinleith Forest.

The Cougar Park Mountain Bike Club in Kinleith Forest near Tokoroa also receives significant recreational use by bikers and walkers. This is managed via one access permit for the mountain bike club. The track counters indicate usage is currently around 34,000 visits per annum.

7.4 Eastern Region

The Eastern region estate is made up of leasehold land and access to the forests is managed by the landowners independently of MFM (NZ). Eastern issues two Licenses to Operate to a hunting club and the trail bike club (Epic Events).

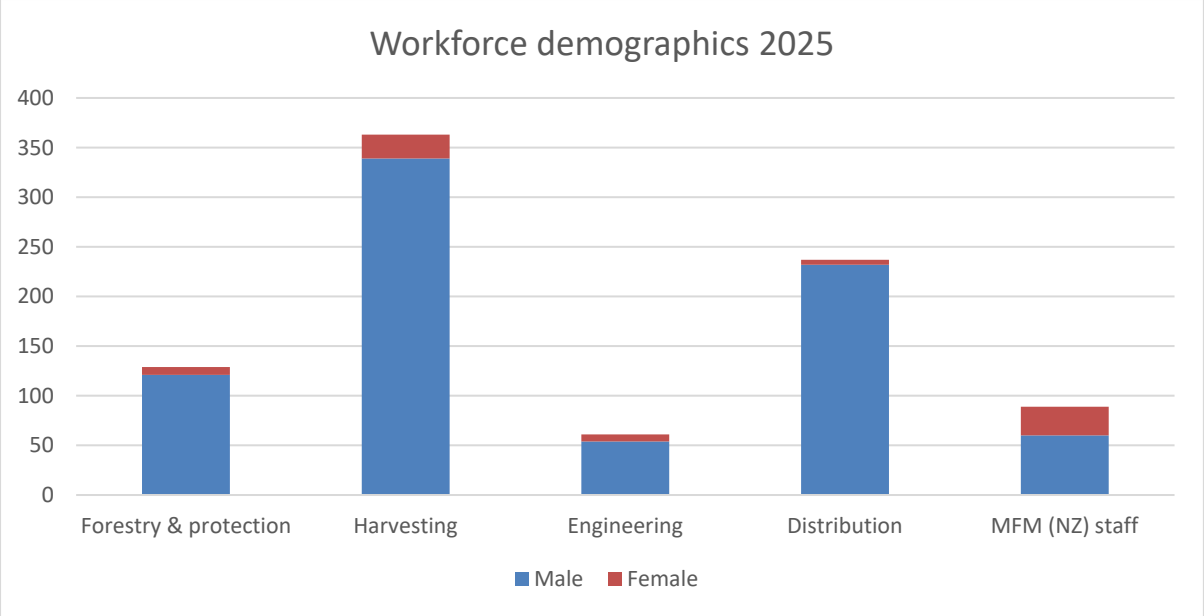
The hunting club issues and manages hunting permits for weekend hunting from April through to September. In the 2025 hunting season there were 380 registered members.

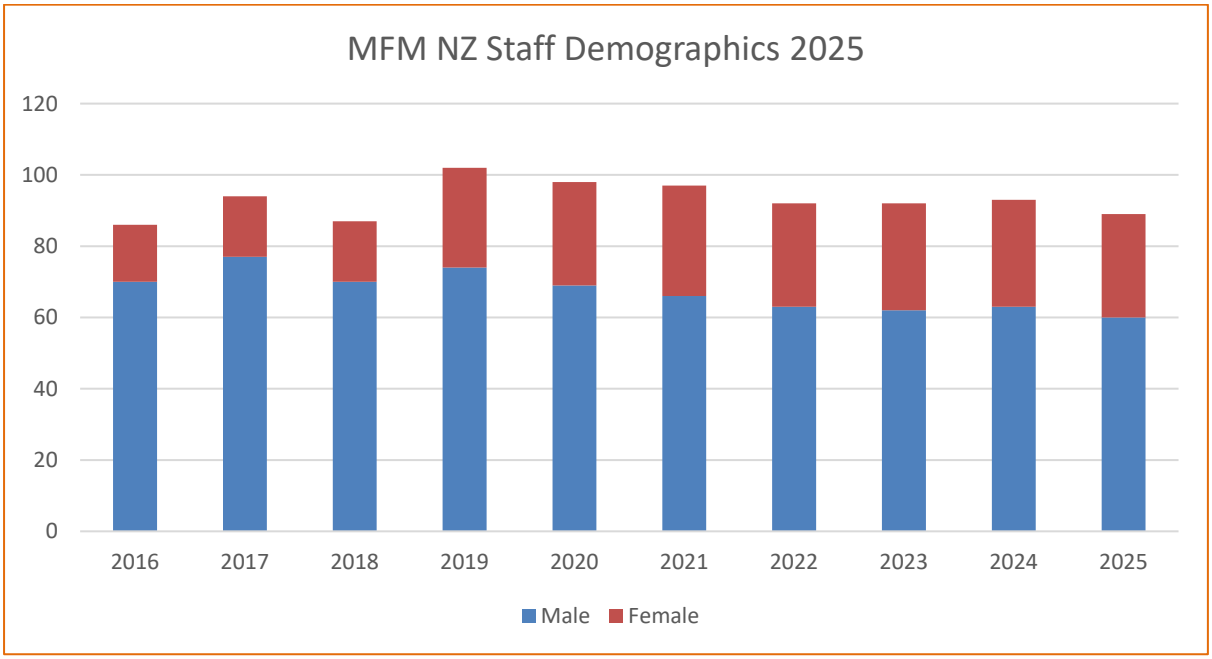
Epic Events is a trail bike events business that has been operating out of Wainui Forest for many years. They run monthly events through from April through until November. In the 2025 calendar year they hosted 13,049 riders in Wainui Forest.

8. Employment

MFM (NZ) has four offices (Whangarei, Tokoroa, Tauranga and Rotorua). MFM (NZ) has approximately 100 directly employed staff and also engage a significant number of people on a contract basis to undertake infield forestry activities including silviculture, engineering, planning work, harvesting and distribution.

The graphs below show the number of people employed in different areas of MFM (NZ) managed operations and gender split.

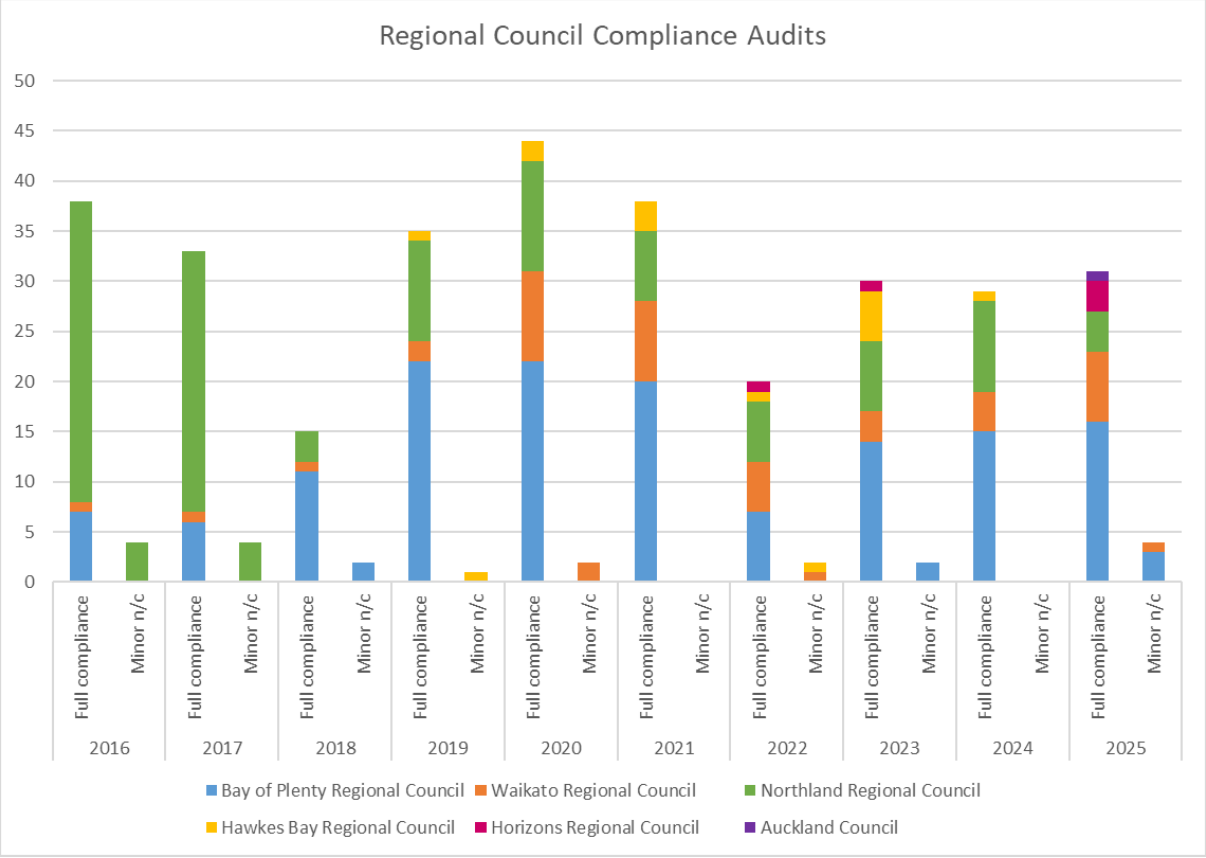




9. Regional Council Auditing

Regional Council audit MFM (NZ) operations to assess compliance with resource consent conditions or permitted activity standards. Auditing ranges from quarterly to annually depending on the risk of the activity.

The graph below shows the total number of audits carried out in each region and the compliance outcome. The different numbers of audits reflect the forest make up in each region, with one large forest in the Waikato Region operated under one consent (Kinleith) as opposed to a large number of small forests in Northland and the Bay of Plenty Region operating under numerous consents audited individually.



10. Carbon

MFM (NZ) undertakes an annual calculation of the carbon sequestered in our client's forests and the estimated non-biological emissions from forest management and transport operations.

The calculated total carbon stocks include:

- Live tree biomass
- Debris and below ground dead biomass

The estimated non-biological greenhouse gas emissions include emissions from:

- Nitrous-oxide emissions from fertiliser application
- Fuel based carbon dioxide emissions associated with forest harvesting, engineering, forestry operations and internal transport and onsite processing of logs

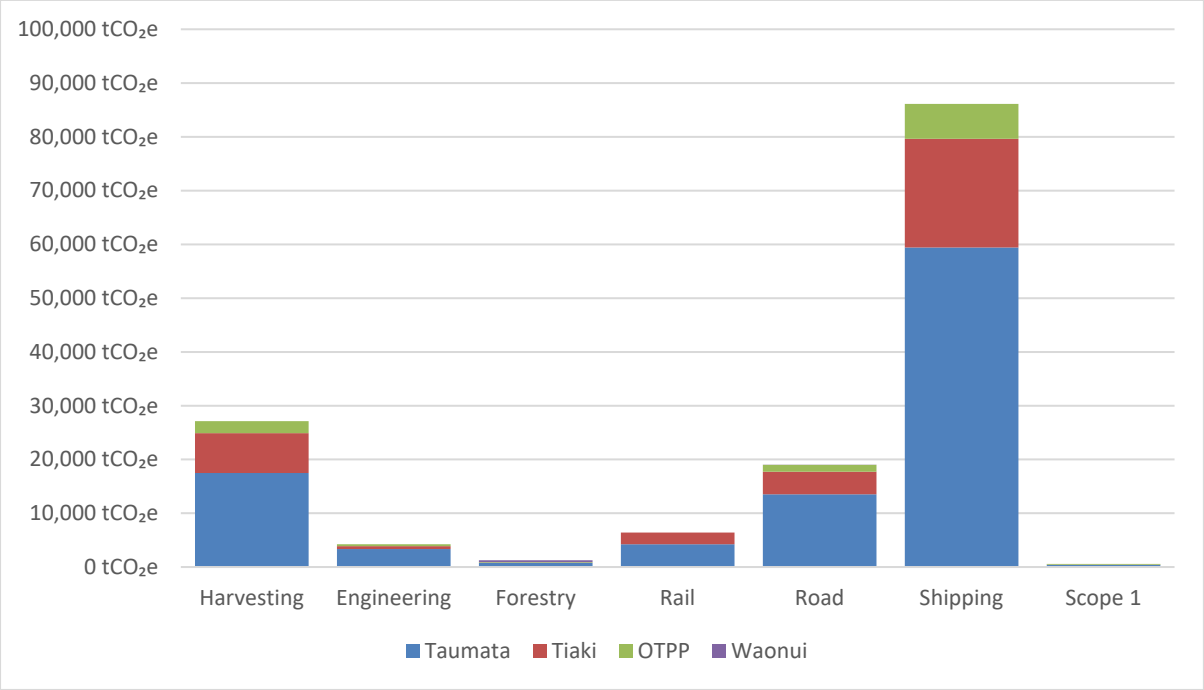
- Fuel based carbon dioxide emissions associated with transport of logs from the forest to market (log truck transport and shipping of export logs)

Total carbon stored and changes in biomass during the 2025 calendar year for the MFM (NZ) managed estate is summarised in the following table.

Table 8.1: Total carbon pool – MFM (NZ) Clients 2025

Carbon Pool (Tonnes CO_2 equivalent)	Taumata	Tiaki	OTPP	Waonui	All MFM (NZ) Clients
Total Carbon stored in biomass 31 Dec 2025	65,715,375	8,540,709	13,613,346	9,060,536	97,052,572
Carbon stored in Harvested Wood Products	187,963	57,997	27,990	0	271,871

Non-biological emissions for the MFM (NZ) managed estate for the 2025 calendar year are shown in the following graph.



Graph 8.2: Non-biological emissions from harvesting and forestry activities – all MFM (NZ) clients 2025

As can be seen from the graph the largest emissions arise from shipping. This is highly dependent on the efficiency and travel speed of the chartered vessel. Total annual emissions equate to around 0.2% of the total carbon stored in our forests. MFM (NZ) is currently reviewing potential alternatives to fossil fuels for log transport and in the long term, log harvest.

11. Biodiversity Monitoring

11.1 High Conservation Value (HCV) areas

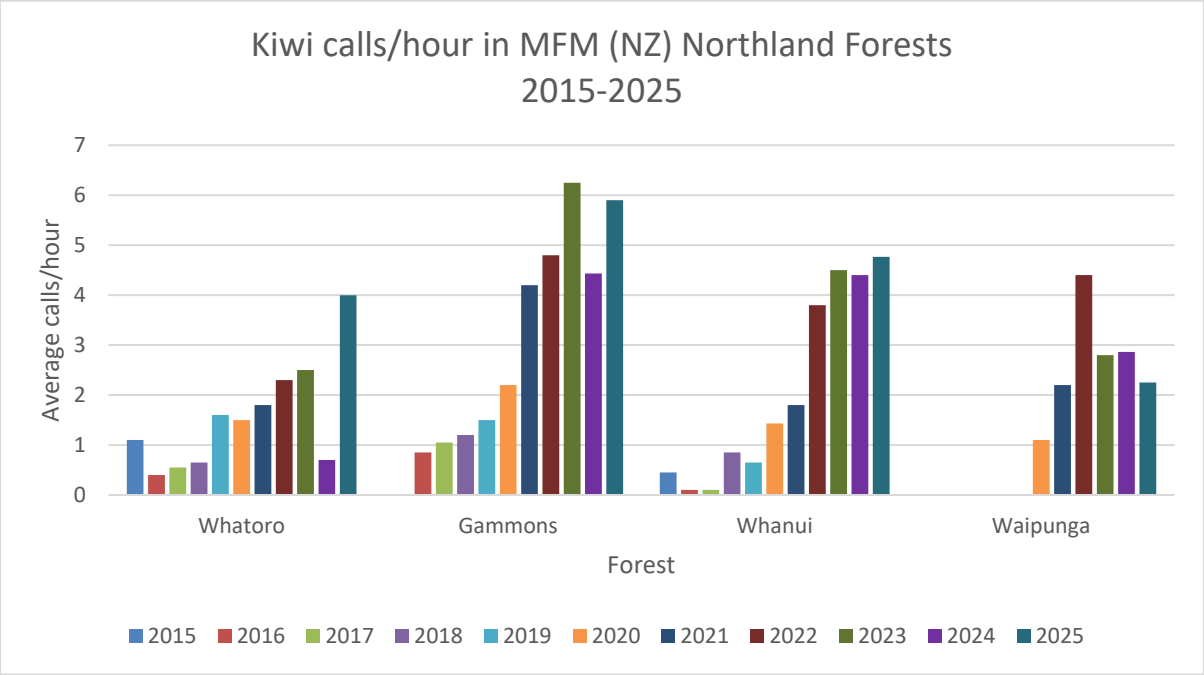
There are eleven HCV areas identified on the MFM (NZ) managed estate. These sites are monitored annually to confirm there has been no deterioration in condition and to assess management requirements going forward. The detailed monitoring reports for any site can be provided on request.

11.2 Kiwi Monitoring

North Island Brown kiwi inhabit a number of MFM (NZ)'s Northern Region pine forests.

As part of MFM (NZ) kiwi protection initiatives, annual call monitoring is undertaken in a number of our Northern forests to determine population levels. Call counts are taken during the mating season using electronic listening devices. This data is analysed and gives us the number of calls over a seven-day period, monitoring for eight hours per night, a total of 56 hours. From this data average hourly call counts can be estimated with five calls per hour classified as high and one or two as good. MFM (NZ) uses the information both to understand where we are likely to encounter kiwi during our operations and to monitor the success of predator control programmes. Kiwi monitoring is completed from May to July annually.

MFM (NZ) has been actively controlling predators through trapping programs in Whatoro, Waipu, Whanui, Ngunguru, Gammons, Rakautao and in Waipunga Forests, with over 500 predator traps installed in Northern forests. The following graph shows call count monitoring results for four of MFM (NZ) managed forests under predator control programmes. The results are reported as calls per hour. Pleasingly the results indicate a steadily increasing trend in kiwi numbers in most forests. The monitoring shows that it is possible to maintain and even increase kiwi populations through the harvest cycle with the predator control in place.



Note: The Waipunga data was affected by a listening device failure in 2025 giving a lower result.

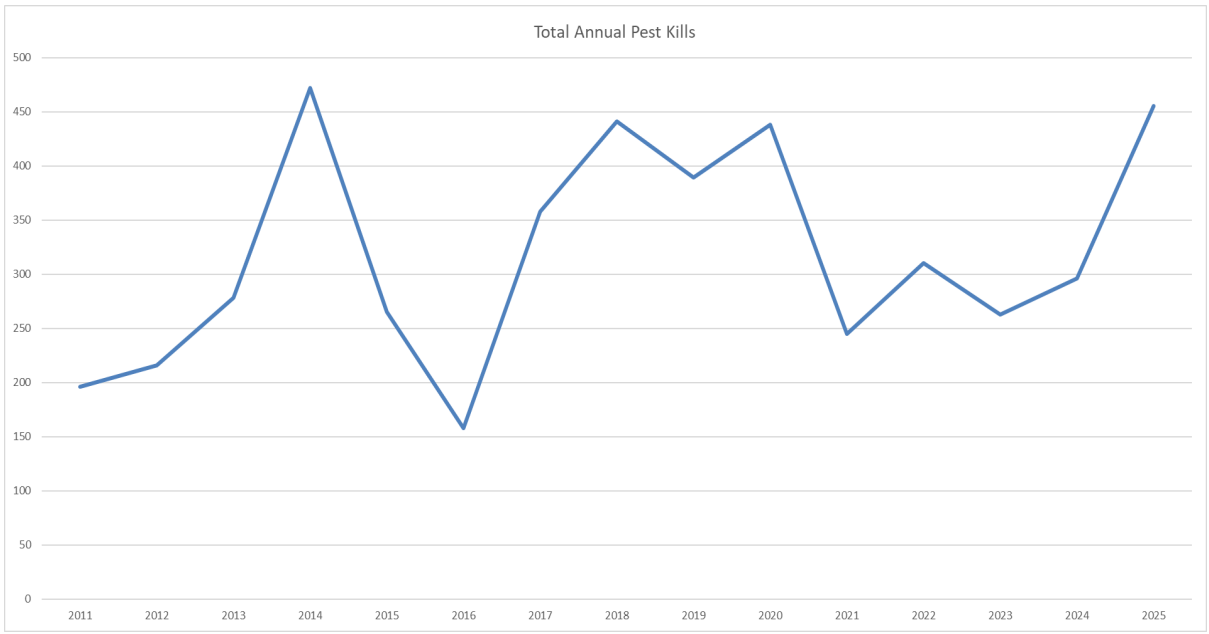
11.3 Whio (Blue Duck) Recovery Project

Blue duck (whio), are a threatened species endemic to NZ, with an estimated total population of less than 3,000 birds. Like many of New Zealand's indigenous bird species, blue duck have been affected by habitat loss and predation by introduced predators.

In 2010 MFM (NZ) commenced a predator control programme on the Pungapunga Stream in Waituhi Forest near Taumaranui focussed over the breeding season. The project goal was to control predator numbers to assist the breeding success of resident Whio to protect their vulnerable chicks from predation.

Adult Whio inhabit approximately 1km stretch of river as their home range. Once the juveniles can fly, they move out of the area to take up residency on their own stretch of river. It is hoped that the improved breeding success in this project will help increase the population to repopulate the surrounding habitat in Waituhi Forest and the surrounding DOC estate.
Over the period 2020 to 2025 MFM (NZ) have made a number of changes to the trapping programme including increasing trapping to year round, alternating lures and trialling new trap designes.

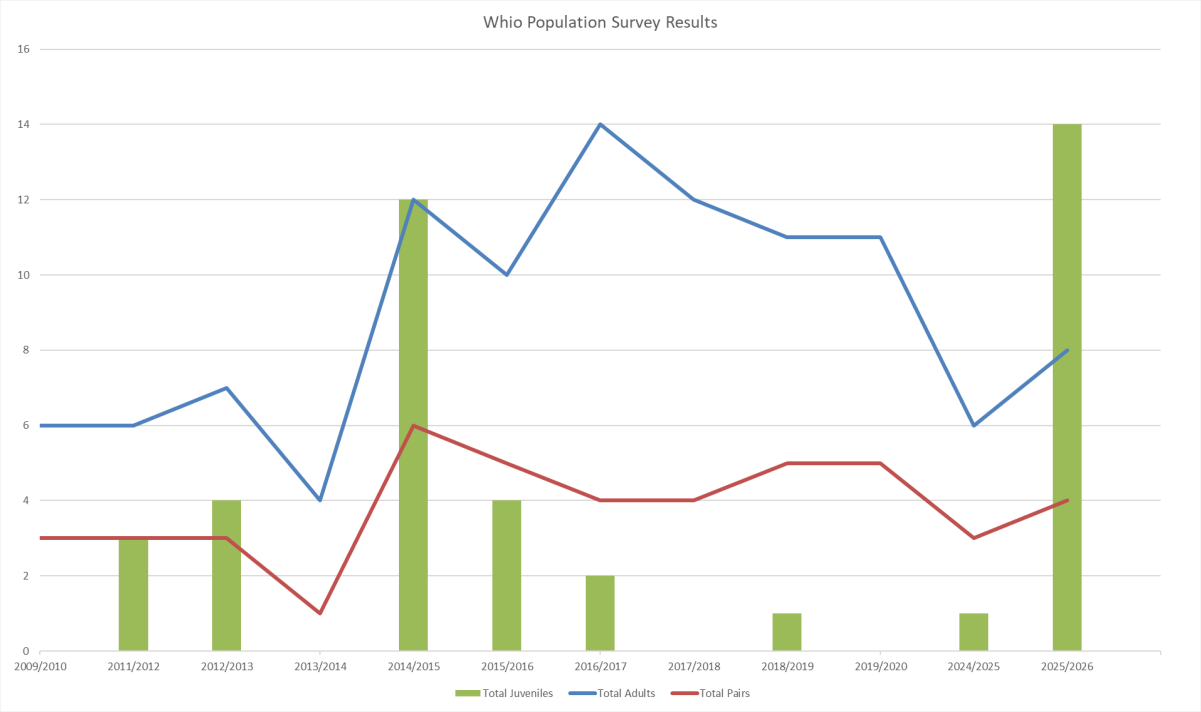
Following above changes, we've seen a significant increase in total pest kills with 2025 producing the second highest total (455) since the project commenced. The graph below shows the total number of predator kills from the trapping programme from 2011 to 2025.



Total annual trap kills from 2011 to 2025

Population surveys have been completed most years since the project commenced, during the summer season to monitor breeding success. The survey has been carried out each year using a trained whio detection dog, walking the length of the stream and recording the number of adults, pairs and chicks observed.

The graph below shows the results of population monitoring to date. In the most recent monitoring season, four pairs were observed with fourteen chicks between them, our highest recorded result to date.



Summer population survey results 2011 to 2025 (Adults, pairs and chicks present)

11.4 Stream Monitoring

MFM (NZ) carries out electric fishing in streams in a range of locations across our forests. Electric fishing is a way of identifying fish species that are currently living in stream. This type of monitoring is often completed before harvesting occurs to understand what is present in the stream and then after harvested to see if forestry activities had an impact on the in-stream biota. Monitoring generally continues to see if further trends occur. All electric fishing data is input into the NZ Freshwater Fisheries Database.

eDNA technology is now available as an alternative to electric fishing and MFM (NZ) has adopted this method for many of the streams that we monitor. eDNA monitoring involves drawing water into a syringe pushing the water through a filter to capture DNA. The filter is then preserved and sent to a lab for analysis. The eDNA method is a lot less invasive and requires less training than electric fishing. It is an ideal solution for collaborative monitoring with landowners and stakeholders.

11.5 Rare, Threatened and Endangered Species Sightings

Plantation Forests in New Zealand are known to provide suitable habitat for a range of New Zealand indigenous species, including a number of species that are classified as 'Threatened' and 'At Risk'. These species can occupy both our indigenous reserve areas (such as native bush) but also in many cases the plantation forest itself, and even the cutover.

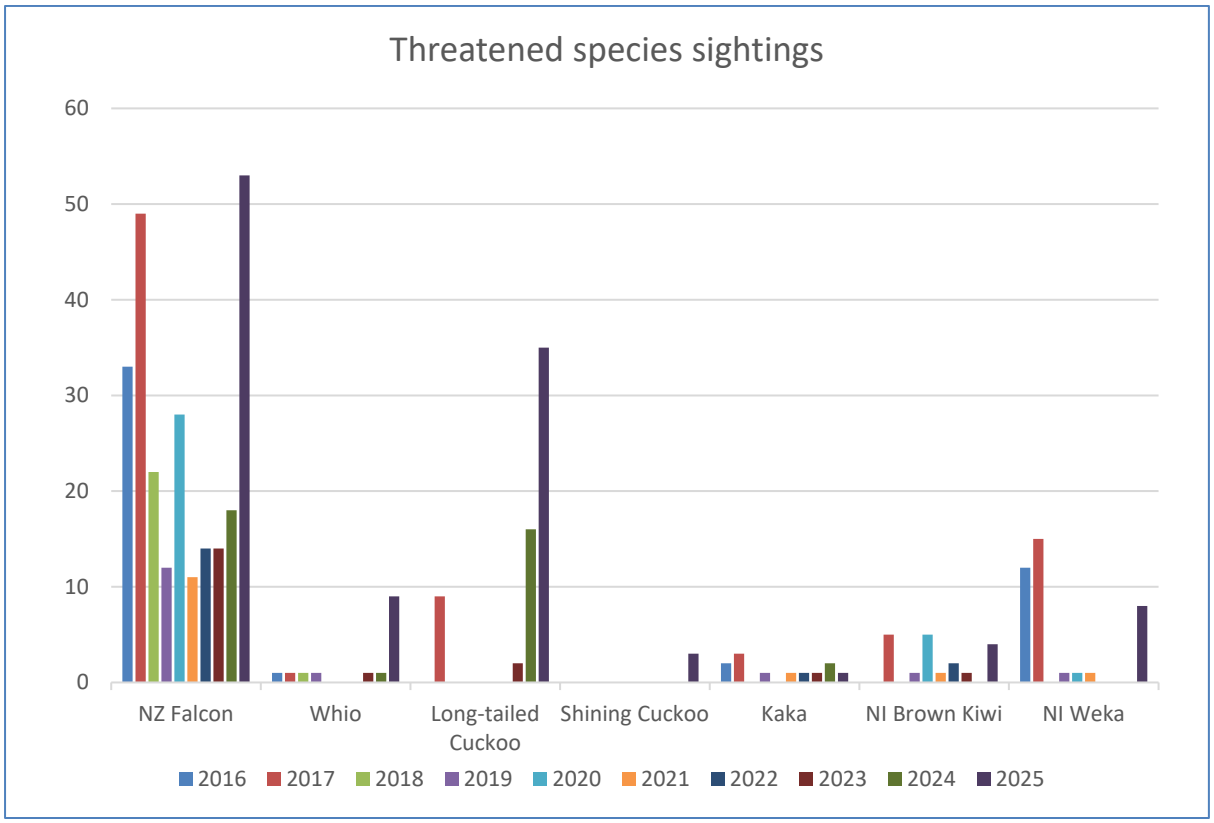
All staff and contractors of MFM (NZ) are encouraged to report sightings of rare, threatened and endangered species. MFM (NZ) provide training to all staff and contractors on what these species are and look like through a field guide document which provides basic information and coloured photos.

Reporting of sightings is important for a number of reasons:

- From a forestry perspective it enables us to take precautions to prevent the species from harm or protect important habitat areas such as nesting sites.
- Sightings of key species such as falcon are reported through to national databases - which help build up a picture of the range and populations of key species but also helps to promote understanding of the biodiversity values of plantation forestry.

Twenty one different species have been recorded since recording commenced in 2016 including NZ falcon, whio, long-tailed cuckoo, kaka, North Island brown kiwi, weka, dabchick, kauri snails, peripatus, North Island robin, long-tailed bats, hochstettor frogs, long-finned eel, morepork, fern bird and kokako.

The following graph shows the number of sightings per annum for some of the more frequently sighted species in our forests.



Threatened species sightings for key species 2016-2025