



PURUKI FOREST, MANGAMINGI STATION, WAIKATO

# LEADING NEW ZEALAND FARMING

FORESTRY STRATEGY 2020-2029

COMMERCIAL FORESTRY WHERE IT MAKES SENSE



## PĀMU FORESTRY AT A GLANCE

|         |  |
|---------|--|
| 372,000 | HECTARES UNDER MANAGEMENT INCLUDING MOLESWORTH STATION   |
| 154,139 | HECTARES OF LAND IN PĀMU OWNERSHIP   |
| 12,357  | HECTARES OF TREES PLANTED  |
| 6.4     | MILLION TREES PLANTED IN 5 YEARS   |
| 30      | YEARS OF HISTORY IN PLANTING COMMERCIAL FORESTRY   |
| <10     | PERCENT OF PĀMU-OWNED LAND IS AFFORESTED (EXCLUDES LEASED LAND)  |
| 2,000   | HECTARES PER YEAR OF MAXIMUM PLANTING AREA TO 2029   |
| 11      | PERCENT OF OUR FORESTS ARE PLANTED IN NATIVE TREES   |
| 38      | THE NUMBER OF FTE EMPLOYED ACROSS THE VALUE CHAIN FOR EVERY 1,000 HECTARES OF COMMERCIAL FORESTRY, COMPARED TO 17 FOR SHEEP AND BEEF |
| 16,000  | HECTARES OF LAND HAS BEEN COVENANTED IN ORDER TO PROTECT THIS HIGH-VALUE LAND  |

# LETTER FROM THE CHIEF EXECUTIVE

## PĀMU IS NEW ZEALAND'S FARMER

As New Zealand's largest farmer, Pāmu has an important role in achieving the government's vision of sustainable economic development, more exports, good jobs paying higher wages, and a healthy environment. Increasingly, commercial forestry will play a part in making this a reality.

Pāmu has always planted trees. Prior to 2000 the majority of our forest estate was small-scale and spread across many farms. Since 2010, and into the future, the focus is farming and forestry as complementary land uses. At Pāmu this means ensuring each farm remains a viable livestock operation, the impact on our people is minimal, and our rural communities remain vibrant.

Over the next ten years we plan to plant approximately 10,000 additional hectares of commercial forestry on land that is better suited to generating revenue from trees than livestock. This planting will also provide shelter for stock, protect the land from erosion, improve water quality, enhance biodiversity, and sequester carbon.

While *Pinus radiata*, New Zealand's most in demand tree, is the core of our planting, we are incorporating a diversity of trees into our forests including redwoods, eucalyptus and native species. In partnership with Scion and Tane's Tree Trust, the native forest plantations will also be used as research sites.

Pāmu takes its role as steward of 370,000 hectares of New Zealand land seriously. In our forests this means we are committed to adopting the Forest Stewardship Council principles of good forest management. We also have the largest number of QEII Trust covenants by numbers and we have fenced or retired 9,800 hectares of land to protect waterways, wetlands, and allow native bush to regenerate.

In summary our strategy is based on best practice, commercially viable, farming that works for our land, our livestock, our people, and our communities.

This document outlines our plans for making forestry an important part of the leadership role Pāmu plays in New Zealand primary industry. Commercial forestry where it makes sense is the mantra.



**Steve Carden**  
Chief Executive Officer



## WHY THE QEII TRUST IS IMPORTANT

Almost 70% of New Zealand is in private land ownership, so protecting biodiversity and heritage on private land is critical to reversing the decline of indigenous biodiversity and preserving our history.

The QEII Trust is an independent charitable trust that partners with landowners, like us, to protect sites on their land with covenants. The covenant is an agreement between the Trust and us to protect land forever.

We continue to own and manage the protected land, and the covenant and protection stays on the land, even when the property is sold to a new owner.



# OUR FORESTRY PROMISE

The care and respect of nature's lands, animals and people come first in everything we do. This responsibility and these nine commitments guide our investment in commercial forestry.

1

Nothing is more important than making sure our team gets home safely every night.

2

Our goal is to get value from the land for our shareholders today and tomorrow.

3

Livestock is in our DNA. We are committed to ensuring all our farms maintain viable livestock operations.

4

Our forestry planting is focused on gaining returns from marginal land and protecting environmentally vulnerable land.

5

We will plant a mix of species and aim to establish small but significant areas of native forest.

6

We prioritise people and employment on farms and in our communities.

7

We value and support vibrant rural communities and are proud to play an active role.

8

We aim to be best practice and will apply the Forest Stewardship Council (FSC) principles of good forest management.

9

Farming and forestry comes first. Sequestering carbon is a secondary economic benefit.

# OUR STRATEGY

## OUR HISTORY IN FORESTRY

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Pāmu has a 30-year history of planting commercial forestry. Prior to the 2000s, the Pāmu forest estate was mainly small-scale plantings across many farms. A handful had embarked on larger scale forestry as wilding harvest in the late 80s and early 90s allowed the revenue to be used to re-plant in commercial forestry.

The focus since 2010 through the implementation of Land & Environment Plans across the Pāmu portfolio has seen farming and forestry as complementary land use on many of our properties. Forests have been planted to improve the sustainability of the Pāmu farming properties. In addition, these forests in many instances provide stock shelter, protect land from erosion and enhance biodiversity and stream water quality.

### Our plans for the next ten years (2020–2029)

Our goal is to get the greatest value from the land while ensuring we meet environmental and biodiversity targets. As we implement the Land & Environment Plans we will be planting between 1,000 and 2,000 hectares of commercial forestry a year for the next 10 years, starting in 2021.

We will utilise marginal land that is prone to erosion, land use categories 6e and 7e, where we can generate a return, without impacting the profitability of the farm, and we can sequester carbon under the Emissions Trading Scheme (ETS).



## LAND & ENVIRONMENT PLANS

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Farm Land & Environment Plans assess and record the farm's land and environment resources, then identify any environmental risks, before making a plan around how any issues will be managed and the timeframe for doing so.

At the heart of the plan is a Geographic Information Systems map that identifies the different Land Use Capabilities across the property.



## LAND USE CAPABILITY

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The land use capability (LUC) classification is a system of arranging different kinds of land according to its capacity to support long-term sustained production after taking into account the physical limitations of the land. The classification was first devised in 1969 with two revisions since in 1971 and 2009. There are eight classes numbered from one to eight and four subclasses.

The higher the number, the more limitation there is to use. Class 8 land is generally unsuitable for production, while classes 6 and 7 are generally suitable (to a greater or lesser degree) for pastoral or forestry uses. Within each class there can be subclasses. The subclass denotes physical limitations for the piece of land. For example, the 'e' class recognises susceptibility to erosion.



## Site selection

Our site selection process aims to ensure that each farm remains a viable pastoral livestock operation, with minimal impact on the farming staff.

### Site assessment process:

1

#### Location

Identify potential forestry sites through the Land & Environment Plan

2

#### Review

Review the selected areas on each farm considering productivity, futureproofing, farm design, ecosystem services and values

3

#### Forestry systems

What, where and why of species options

4

#### Commercial analysis

Financial and Opportunity Cost Assessment

5

#### Implementation

Trees planted



## Mix of species

Our goal is a diverse planting portfolio. *Pinus radiata* remains the dominant species for commercial plantation forestry for good reason. It is relatively fast growing, very hardy during establishment, and it is cheap to plant. It also is supported by excellent research and development, processing infrastructure, and has multiple uses when harvested. The profitability from *Pinus radiata* benefits not only the farmers – it flows through to the wider industry, which supports jobs and local communities.

Pāmu has for a number of years planted a variety of exotic plantations to assess regional suitability and survivability, and to support a variety of research programmes. As a result, a number of species, consistent with what is in the existing landscape, will be used in the planned plantation development.

### • Native trees

Indigenous/native timbers (tōtara, beech, kahikatea) are being explored for their use as high-value finishing and building timbers. Manuka is of particular interest for honey.

### • Exotic trees

Exotic timbers (redwood, cypress, and eucalyptus) are being evaluated through the Specialty Wood Products Research Partnership with a view to develop high value wood products industries based on New Zealand grown alternatives to *Pinus radiata*. The intent is to increase the potential of New Zealand's specialty wood products industry including the ability to harvest and process the wood.

## Flexible plantation portfolio

Because the current Pāmu plantation portfolio is mixed age, with a proportion being harvested annually, we have significant flexibility moving forward.

Depending on what is best for the farm and the environment we can re-plant, convert to another species or just leave the forest to regenerate naturally as the opportunity arises.

Alongside our commercial forestry activities, we are planting more native plants in riparian areas to protect biodiversity, water quality and provide a long-term carbon sink. This planting beside water ways includes pioneer species that in the future will allow larger natives to regenerate.

## Forest management and harvesting

Pāmu is committed to the Forest Stewardship Council (FSC) principles of good forest management and the Ministry of Primary Industry National Environment Standard for Plantation Forestry (NES-PF). Seven properties are already FSC certified.



### Forest Stewardship Council principles

The ten FSC principles are:

**Principle 1:** Compliance with laws and FSC Principles – to comply with all laws, regulations, treaties, conventions and agreements, together with all FSC Principles and Criteria.

**Principle 2:** Tenure and use rights and responsibilities – to define, document and legally establish long-term tenure and use rights.

**Principle 3:** Indigenous peoples' rights – to identify and uphold indigenous peoples' rights of ownership and use of land and resources.

**Principle 4:** Community relations and worker's rights – to maintain or enhance forest workers' and local communities' social and economic well-being.

**Principle 5:** Benefits from the forest – to maintain or enhance long term economic, social and environmental benefits from the forest.

**Principle 6:** Environmental impact – to maintain or restore the ecosystem, its biodiversity, resources and landscapes.

**Principle 7:** Management plan – to have a management plan, implemented, monitored and documented.

**Principle 8:** Monitoring and assessment – to demonstrate progress towards management objectives.

**Principle 9:** Maintenance of high conservation value forests – to maintain or enhance the attributes which define such forests.

**Principle 10:** Plantations – to plan and manage plantations in accordance with FSC Principles and Criteria.

## The Forest Stewardship Council – helping forests remain thriving environments for generations to come

The Forest Stewardship Council (FSC) is an independent, not-for-profit, non-governmental organisation that works to promote the environmentally appropriate, socially beneficial, and economically viable management of the world's forests. FSC certified forests have to meet rigorous standards. This means FSC certified forests are healthy, and benefit local communities as well as providing jobs for workers.

### National Environment Standard for Plantation Forestry

The NES-PF regulations cover eight core plantation forestry activities that have potential environmental effects:

- afforestation (planting new forest)
- pruning and thinning to waste (selective felling of trees where the felled trees remain on site)
- earthworks
- river crossings
- forestry quarrying (extraction of rock, sand, or gravel within a plantation forest or for operation of a forest on adjacent land)
- harvesting
- mechanical land preparation
- replanting.

### Health and safety

Safety will always be at the heart of the way we operate. Nothing is more important than making sure everyone on our team gets home safely every night.

Jobs in forestry have been some of the most dangerous in New Zealand. This means the wellbeing of our people and the teams that work in our forests is our clear priority. We have programmes and systems in place to make sure safe behaviour is embedded in everything we do from a farming perspective. Along with our partners we continue to lead the sector with our health and safety standards and commit to work with the forestry sector to ensure standards are shared across agriculture and forestry.



## Backing regional initiatives

### Tōtara Industry Pilot

Pāmu is active in supporting the Tōtara Industry Pilot (TIP). This pilot project is a two-year study to test the opportunity for a new industry based on careful management of regenerating Tōtara on private land in Northland. The project partners include MPI, Scion, Northland Inc, Tane's Tree Trust and Te Taitokerau Māori Forestry Collective. The members of the pilot believe that native forestry can bring together all the potential advantages of conservation, timber production, environmental and economic enhancement, social and cultural enrichment.

With several of our farms having Tōtara planted or planned to be planted, Pāmu is committed to supporting the TIP to see Tōtara regenerated through the region.

## Research and Innovation

Pāmu has a wide range of long-standing research trials established across 12 farms in New Zealand. Working with various partners such as Scion, Tane's Tree Trust, and the New Zealand Dryland Forests Initiative, Pāmu are supporting research by providing sites and contributions towards the establishment costs and silviculture. These research programmes include trials to establish more native trees, measure the success of other species against *Pinus radiata* or breeding cypress species for canker resistance.





# MYTH BUSTING

WITH GORDON WILLIAMS, ENVIRONMENTAL MANAGER FORESTRY – PĀMU

Gordon is responsible for ensuring farms within their portfolio uphold and promote best practice environmental standards while maintaining economic sustainability. With over 50 years' experience in the company, the last fifteen years specialising in forestry and the last ten years specialising in sustainability and the environment, he is well placed to answer our myth busting questions.

## MYTH ONE

"You're going to plant whole farms in trees."

**Gordon:** **Pāmu is first and foremost a livestock farmer.** It's about complementary land use with each farm remaining a viable livestock operation.

Let's put this in perspective. Pāmu manages over 372,000 hectares of land, including 152,966 hectares from Molesworth Station – New Zealand's largest farm. New Zealand has over one million hectares of plantation forestry. We're only planting between 1,000 and 2,000 hectares of forestry a year for the next 10 years.

## MYTH TWO

"Productive pasture land will be turned into pine forest."

**Gordon:** **No, our planting is on marginal land or land which needs protection.** The planting will either be on marginal land that has a carrying capacity of less than six stock units per hectare or has scrub or noxious weeds that are difficult to control, requires erosion control, riparian fencing or shelter for stock.

## MYTH THREE

"It will all be *pine* trees."

**Gordon:** **No, it is commercial forestry that best meets the needs of the company.** Alongside pines we're planting a mix of species including dryland eucalyptus on light country, and we are establishing areas of native plantation forest across the country.



## MYTH FOUR

"Farmers will be taken off the land."

**Gordon: We are committed to hiring and training people in rural communities.** Our forestry programme will have only a minimal impact on our farming staff if farming operations intensify on the better land. All of our forestry will require workers for planting and silviculture, pest control and in the future, harvesting. Regional initiatives for specialty wood products should also increase the regional work-force post-harvest. We always take an interest in the health and welfare of the whole community and share concerns about the impact on local schools.

The May 2020 PwC study into the economic impact of forestry concluded that the forestry value chain generates significantly more value-add on a per 1,000 hectares basis than the sheep and beef value chain. This includes 38 FTE employed across the value chain compared to 17 in sheep and beef.

## MYTH FIVE

"There will be slash and debris in the rivers and on the beaches just like in Tolaga Bay."

**Gordon: Our track record shows we prioritise measures which protect the environment.** While we were not responsible for what happened at Tolaga Bay, we understand that mistakes happen. We discuss the risks with all our properties and work with our professional forest managers and regional councils to mitigate those risks. We are also working towards having all of our properties certified by the Forest Stewardship Council. Seven farms have already completed this process.

### Land Use Capability – classification code

| Code | Description  |
|------|--|
| 1    | Land with virtually no limitations for arable use and suitable for cultivated crops, pasture or forestry.          |
| 2    | Land with slight limitations for arable use and suitable for cultivated crops, pasture or forestry.                |
| 3    | Land with moderate limitations for arable use, but suitable for cultivated crops, pasture or forestry.             |
| 4    | Land with moderate limitations for arable use, but suitable for occasional cropping, pasture or forestry.          |
| 5    | High producing land unsuitable for arable use, but only slight limitations for pastoral or forestry use.           |
| 6    | Non-arable land with moderate limitations for use under perennial vegetation such as pasture or forest.            |
| 7    | Non-arable land with severe limitations to use under perennial vegetation such as pasture or forest.               |
| 8    | Land with very severe to extreme limitations or hazards that make it unsuitable for cropping, pasture or forestry. |



# CASE STUDIES

## CASE STUDY ONE TRANSFORMING COASTAL FARMING: OMAMARI

New Zealand is on a journey to future-proof our farms while ensuring sustainable landscapes. Omamari spans 2,364 hectares on the East Coast of Northland near Dargaville, and is an excellent example of forestry's role.

The biggest driver for more forestry on the land comes from Pāmu's Land and Environment Plans. Using the Land Use Classification system, they are able to identify farmland that is better suited for alternative purposes due to its constraints, including erosion control.

A portion of Omamari, comprising of 600 hectares of grazed farmland, is being transformed into a more efficient and commercially successful operation and now operates 430 hectares of livestock production and the remaining 170 hectares is used for other purposes, including forestry. The first step in this transformation is to create a flexible farming system that uses fencing to rotate the cattle through the flat areas of pasture, with a mix of commercial forestry species on the surrounding marginal hillsides,

and remaining areas of the farm planted and left to regenerate. The various areas are decided based on the Land Use Capability system, with predominantly Class 6e or above being selected as areas for forestry.

"It's a new approach to intensification and has now been replicated across six other Pāmu farms in the North Island," says Gordon Williams, Environmental Manager Forestry, Pāmu. "We use the better land for livestock and the marginal land for commercial forestry or retirement. It's best use for the land and creates more successful farms."

In 2018, the farm's transformation began by installing a cost-effective, high-power, flexible electric fencing system to separate the pasture area from the steep hillsides and surrounding wetlands. The pasture area was then further separated into one-hectare paddocks. This allows the farm team to deliver controlled grazing which improves the quality of the grass, with the cattle able to be moved daily to a new break for optimal feed management.



### A mix of trees

Adopting this approach gave Pāmu the opportunity to develop the surrounding steep hillslopes for commercial forestry. The hillslopes, many of them with light coastal soils, have been planted with a mix of *Pinus radiata* and dryland eucalyptus species. *Pinus radiata* remains the dominant species for commercial plantation forestry due to its fast growing, hardy nature and because it has multiple uses when harvested. The wetlands have been retired with riparian margins planted in natives.

Eucalyptus are a new forestry choice for Pāmu, as part of the New Zealand Dryland Forests Initiative. Pāmu decided to plant these in Omamari as they are a solid timber that has high ground durability and multiple uses.

“With commercial forestry, we don’t want to rely solely on *Pinus radiata*, as it can leave us vulnerable to fluctuations in demand and the threat of pests and diseases. All the evidence suggests that dryland eucalypt species are a good choice that will produce durable hardwood and see us diversify our forestry stock.”

### Natives in the wetland & poplars for shade

In the wetland and riparian areas of the farm, a mix of native trees including pohutukawa, manuka, tōtara, kahikatea, ti kouka, and flax have been planted.

Poplar poles are used in the pasture area and surrounding the wetland areas to give shade and shelter to the animals. Poplar grow fast and at two metres tall, the tops are beyond the reach of the cattle.

“We use our Geographic Information System (GIS) to digitally see what the trees and landscape will look like over time in this area,” says Gordon.

### Supporting employment in the local community

The transformation of Omamari has not only been a great move for Pāmu. It’s been good for the surrounding community and businesses.

“We are working with more contractors to plant and manage our trees and manage pests,” Gordon says.

This 2,364-hectare farm has gone from having livestock grazing across large paddocks on marginal land, to an attractive, diversified, intensive operation that is good for everyone involved. And it has just begun. The transformation continues with more trees being planted this year.





## CASE STUDY TWO PROTECTING ARCHAEOLOGY AT TE APITI

We have worked hard to ensure our Te Apiti Farm in Central Hawkes Bay is a viable commercial operation while protecting its important archaeology. This farm is an excellent example of how Pāmu is using technology to manage a forestry planting plan which runs alongside heritage protection.

### Using technology to avoid land use conflict

With 28 recorded archaeological sites that are protected by law, and high chance of more unrecorded sites on the farm, Pāmu had to ensure the planned commercial planting did not impact the archaeology. Land Use Capability determined what areas would be best for planting trees. These areas were then mapped by forestry contractors. The next phase was carried out by Otago University, where they completed a desktop analysis of the site to identify any potential additional archaeological sites, which entails looking at old maps of the area, which was then followed by a field survey of these areas for further analysis.

Gordon Williams, Environmental Manager Forestry, Pāmu explains, “This thorough analysis enabled us to find recorded archaeological sites and areas where there were possible conflicts between forestry infrastructure and archaeological sites. We were able to identify specific areas to be clearly and permanently marked, and excluded from planting with ample buffers before we planted a single tree on the land we had identified as vulnerable to erosion.”

### Incorporating commercial forestry with sheep and beef farming

Te Apiti comprises 2,000 hectares bounded by coastal cliffs, behind which sit a central valley of low hills. Further inland the terrain rises to steep hill country below the Maraetotara plateau at 593m above sea level. Previously the farm was solely used to farm sheep and beef. While it still remains a pastoral farm, it now includes commercial and protection forestry.



IDENTIFYING PROTECTED ARCHAEOLOGICAL SITES AT TE APITI



Due to its proximity to the coast, Te Apiti is vulnerable to increasingly severe weather patterns. In recent years, major storms have resulted in significant erosion and ground instability. Pāmu saw this as an opportunity convert at-risk areas of the farm to a mix of production and indigenous forest, and to participate in the Government's Billion Trees project. In the recent past eucalyptus have been planted on the steepest parts of the farm and *Pinus radiata* has been planted on the more accessible areas.

“One of the advantages of having the eucalyptus trees on this steep land, is that when they are harvested, they coppice. This means their roots don't die and the plants still protect the land from erosion while they re-grow,” Gordon says.

Te Apiti is a special case. The use of technology protects the archaeology while the commercial forestry protects the land and, in time, generates a financial return for the nation.





# ABOUT PĀMU

In te reo Pāmu means 'to farm'.

Pāmu reflects the deep connection New Zealanders have with the land.

Pāmu is a recognised leader not only in New Zealand's agricultural sector, but around the world where our farming practices are studied and emulated.

## OUR VISION

To become the premium supplier of meat, milk and fibre for niche markets globally.

## OUR VALUES



**Grounded:** We are proud guardians of our land and our animals, and we are grounded in our connections with these; our proactive protection of the environment ensures a prosperous future for now and for generations to come.



**Genuine:** We are genuine, always keeping it real, considering our neighbours and our impact; we are easy to engage with and we always deliver what we commit to.



**Bold:** We are bold in our vision, not afraid of the new; always growing and improving for a sustainable future in farming.



**Shoulder-to-shoulder:** We work together, shoulder-to-shoulder, united as a team to ensure each others' safety and wellbeing; we bring out the best in each other and the communities we work in.

Pāmu Farms of New Zealand is the trading name for Landcorp, a State-Owned Enterprise.

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