



Standing Tall Together

MANAGEMENT PLAN

Managing Forest Assets of
NELSON FORESTS LIMITED

July 2017

VISION



This vision makes a clear statement about our business:

- Strength: in our ethics, business conduct, safety culture
- Pride: in our products, service, relationships and our place in the community
- Leadership: with our culture, people and management systems
- Value: gained through sound business practices, growing the business and generating value for all stakeholders
- Teamwork: reflecting that we achieve more together

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1. Introduction

Nelson Forests Limited (NFL) is owned by investors advised by Global Forest Partners (GFP), based in West Lebanon, New Hampshire in the United States. Global Forest Partners and their investors have extensive areas of forest estate under ownership and/or management within North America, Central America, South America, Australia and New Zealand.

Global Forest Partners through their previous investment vehicle RII and then UBS Timber Investors have been involved in the forestry business in New Zealand since 1991 as a 49% owner of the former Nelson Forests Joint Venture Forests. Original ownership was with Fletcher Challenge Forests' (FCF). In 1991 FCF formed a Joint Venture with RII who purchased 49% ownership. In July 1997 Weyerhaeuser Company acquired FCF's 51% share in the Nelson Forests Joint Venture. In November 2007 Weyerhaeuser sold its 51% to GFP investors who now own 100% - thus forming Nelson Forests Limited as the asset holding company and Nelson Management Limited (NML) as the manager of the assets. Nelson Management Limited acts as manager on behalf of Nelson Forests Limited.

2. The Forest Estate

Nelson Management Limited (NML) manages an area 77,000 hectare of which 59,000 is stocked. The forest area consists of four Crown Forest Licence areas (Golden Downs West, Golden Downs East, Wairau and Rai), freehold forests and four joint venture forests.

As a result of Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu, and Te Ātiawa o Te Waka-a-Māui Claims Settlement Act 2014 and the Ngāti Toa Rangatira Claims Settlement Act 2014 the four Crown Forest Land parcels separately containing the Wairau, Rai, Golden Downs West and Golden Downs East Crown Forestry Licences have been transferred to Iwi ownership as part of the Settlement redress to Iwi.

- Wairau Crown Forest Land has been included in the Settlement redress to Ngāti Rārua
- Golden Downs East Forest Land has been included in the Settlement redress to Ngāti Toa Rangatira
- Rai Forest Land has been divided roughly in half and one half has been included in the Settlement redress to Te Ātiawa o Te Waka-a-Māui and the other half has been included in the Settlement redress to Ngāti Tama ki Te Tau Ihu
- Golden Downs West Forest Land was divided into four separate parcels and one part included in the Settlement redress to Ngāti Toa Rangatira, one part to Ngāti Tama ki Te Tau Ihu, one part to Te Ātiawa o Te Waka-a-Māui and one part is held jointly between Ngāti Tama ki Te Tau Ihu and Te Ātiawa o Te Waka-a-Māui.

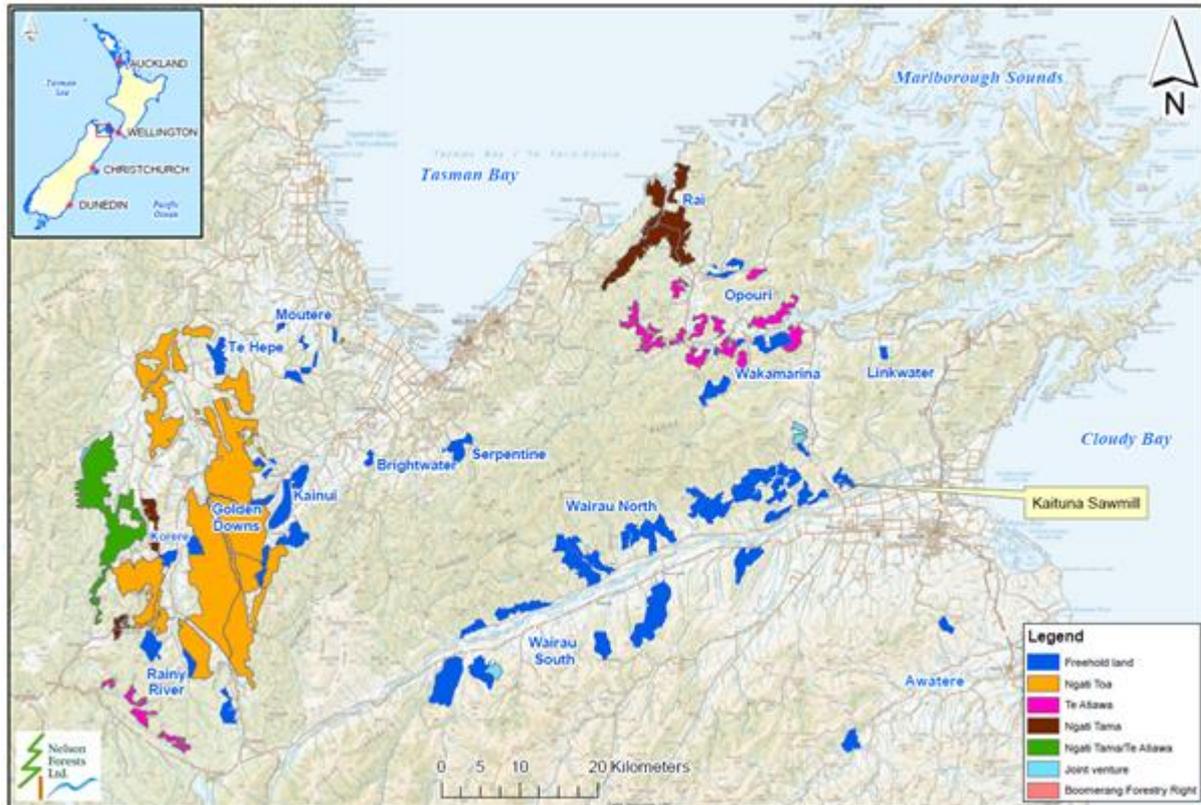
Termination notices were issued to Nelson Forests Limited (NFL) in respect to each of the Crown Forestry Licenses in 2014. The Notices have the effect that NFL have 35 years under the CFL to harvest the remaining standing plantation trees and any land cleared (harvested) of forestry Trees is to be “returned” or handed back to Iwi.

NML has welcomed the Settlement and the opportunity to partner with the new Iwi Land Owners. There is acknowledgement that the need for a long term view in forestry (because of the time for the trees to grow) aligns well with Iwi. Both Iwi and NFL are learning about the consequences of the new Licensor and Licensee relationship under the CFL and the opportunity to forge new relationships. While discussions are continuing the land cleared of trees after the Termination Notice have been replanted by NFL and an Agreement has been reached to postpone the Termination dates so that the new plantings are covered by the CFL. Ngāti Rārua decided to sell the Wairau CFL Land to Nelson Forests Ltd in 2016. The remaining landowners are working towards establishing a new Forestry Right to replace the existing CFLs.

The map below shows the land ownership across the Nelson Forests Estate as at June 2017

Land ownership changes in recent years:

- In 2015 Nelson Forests Ltd. sold Bisley block (213 ha), Moutere Nelson and purchased McEwen & Monterey Forests (224 ha), Dovedale, Nelson
- In 2016 Nelson Forests sold Wyeburn land (176 ha) in Wairau, Marlborough and purchased Wairau CFL land (9,454 ha) in Marlborough.



2.1 Golden Downs Forest

Golden Downs is the largest forest unit in the Nelson/ Marlborough region, with a stocked area of 32,000 ha and total area of 42,000 ha. It is located approximately 60km southwest of Nelson City. Golden Downs has a range of geographical features from very steep broken hill country bordering the Kahurangi National Park to easy rolling hill country and river flats. The State Highway from Nelson to the West Coast (SH6) bisects the forest. A number of rivers flow through Golden Downs Forest including the Baton, Motueka, Motupiko, Wangapeka, Tadmor, Dart and Stanley Brook. Most of the forest is situated on Moutere gravel soils. Smaller outlying blocks to the west are on soils classed as separation point granites which can be more sensitive to erosion. Land use adjacent to the forest is predominantly farming, forestry and conservation.

2.2 Rai Forest

Rai Forest lies on both sides of the Nelson- Blenheim highway (SH6) in several blocks and extends from the top of the Whangamoia saddle to the township of Havelock, covering a total area of 9,400 ha. Most of the valley systems leading off the highway and running out to the eastern coastline of Tasman Bay contain parts of the forest. The Whangamoia, Rai, Wakamarina and Pelorus Rivers run through parts of the forest. Soils are predominantly clay soils on steep topography. Mineral belts (Serpentine) run through small parts of the forest. Land use adjacent to the forest is predominantly dairy and drystock farming, lifestyle farming, forestry and conservation.

2.3 Marlborough Freehold Forest

The Marlborough freehold forests include Wairau Northbank which are situated on the eastern side of the Mt Richmond Forest Park. The forest is made up of a series of blocks which extend along the north bank of the Wairau River as far as the Goulter confluence, with a total area of 9,545 ha. Topography consists of rolling to steep hill country. Soils are predominantly steep land in-grade earths. Land use adjacent to the forest is predominantly farming, viticulture, lifestyle farming, forestry and conservation. The remaining Marlborough Freehold forests include; Wairau South Forest, Linkwater, Wakamarina, Kaituna Sawmill forest, the Opouri Valley and the Awatere Valley. The total area of these forests is 7,100 ha. Topography consists of rolling to steep hill country. Land use adjacent to the forest is predominantly farming, lifestyle farming, viticulture, forestry and conservation.

2.4 Nelson Freehold Forests

The majority of the Nelson freehold forests lie on the foothills of the Waimea basin (Serpentine, Kainui, Moutere, Te Hepe and Brightwater). Smaller freehold forests are located adjacent to Golden Downs Forest (Korere). The total area of these forests is 7,500 ha. Topography consists of rolling to steep hill country. Land use adjacent to the forest is predominantly farming, lifestyle farming, viticulture, forestry and conservation.

2.5 Joint Venture Forests

A number of relatively small joint venture forests are established in the Nelson and Marlborough region, covering an area of 620 ha. These are generally set up as Forestry Right agreements.

3.0 Resource Description

		Current
Planted Area		
1	Radiata pine	52,726
2	Douglas fir	5,025
3	Minor species	1,145
Total Planted Area		58,895
Available For Planting		2,868
Potentially plantable (Unstocked gaps/windthrow)		3,491
Total Productive Land		65,254
Non Productive Land		
Covenants/significant areas		2,243
Bush/indigenous forests/swamps		5,690
Unplanted Riparian/transmission lines/fire breaks		1,033
Retired from production - unusable		1,556
Roads/skids		1,303
Unplanted Other		392
Total Non Productive Land		12,219
Total Land		77,472

4. Management Objectives

The long term environmental goals (measurable where possible) that NML sets itself, arising from the environmental policy and the effects evaluation.



Environmental Management Policy

Goal	An Environmental Management System that enables Self Regulation by demonstrating the promotion and care of a healthy functioning environment and the well being of future generations.
Environmental effects principle	To identify and evaluate the environmental effects of activities relating to operations that we manage and control.
Compliance principle	To manage and control activities to comply with environmental legislation and regulations, and the following voluntary codes; NZ Forest Accord, NZ Forest Code of Practice, Principles for Commercial Plantation Forestry Management in NZ, NZ Agrichemical Users Code of Practice, NZ Environmental Code of Practice for Plantation Forestry, NZ Climate Change Accord, and Forest Stewardship Council® Principles and Criteria for Forest Management.
Environmental Management principle	To train and instruct staff to manage activities to ensure that desirable environmental outcomes are planned for and achieved and that environmental degradation is minimised.
Cautionary principle	To take a cautious approach in operations or activities where the adverse effects of the activity cannot be confidently predicted.
Continuous improvement principle	To continuously improve environmental management through regular audits and reviews of the environmental management system and through environmental research and monitoring.
Future well being principle	To work towards the achievement of sustainable management of the natural and physical resources and to provide for the well being of future generations.
Community principle	To provide for managed recreational activities within our forests. To consult with affected persons and demonstrate openness in questions concerning all significant environmental aspects of our activities.
Tangata Whenua principle	To develop a relationship with tangata whenua / mana whenua that is equitable and has clarity and transparency in all processes.

The overall management of the NFL forest estate has the overall objective of achieving excellence four key areas:

1. Safety
2. Environment
3. Quality
4. Finance

4.1 Safety:

Safety is an area of particular focus given the New Zealand forestry industry has traditionally had one of the highest accident rates in the country. NML believes it is possible to operate without accidents – a fact, which has been proved by some of our competitors in other parts of the world. The company will continue to undertake a range of activities with the intent of making sustained rapid improvements in safety performance. NML has maintained Tertiary accreditation for the ACC Workplace Safety Management Practices programme.

4.2 Environment:

NML maintains an Environmental Management System. These systems act to lock in current performance and provide a base for continuous improvement toward industry best practice and the pursuit of our Vision.

As stated in the Environmental Management Policy, NML will manage and control activities to comply with environmental legislation and regulations, Forest Stewardship Council® (FSC®) Principles and Criteria and the following voluntary codes:

- NZ Forest Accord
- NZ Environmental Code of Practice for Plantation Forestry
- Principles for Commercial Plantation Forestry Management in NZ
- NZ Agrichemical Users Code of Practice

We also aim to be a responsible member of the local community, and one that listens to its stakeholders.

4.2.1 Natural forest conversion and restoration

NFL FMU contains a range of non-plantation areas that are set aside and maintained as natural forest areas for the purpose of maintaining natural biodiversity. A total of 9,978 ha or 15.8% of the working forest area within the FMU is designated as set asides. A full breakdown of the components of the set aside areas is given in the annual Monitoring Plan. The management objective for these areas is to promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests. As part of the overall management objective for the forest a minimum of 10% reserve set-asides or equivalent by Ecological District shall be managed and /or restored to natural vegetation over time.

4.3 Quality:

Until recently NML was certified to the ISO9000 quality management system, however it has been decided to discontinue this certification in favour of integrating quality management into business processes and systems.

4.4 Finance:

The pursuit of financial excellence will be dependent on obtaining and maintaining an internationally competitive cost position that allows the capture of the value naturally inherent in our Nelson forests, and which will be further enhanced by a dedication to customer needs. As a

small organisation we have the ability to focus on a small number of critical customers who we intend to provide with a consistent product and service.

5. Species Selection

Establishment and silviculture practices are adopted with the objective of maximising the value of the forest resource while mitigating and/ or managing any risk factors.

Radiata pine is the predominant species. Radiata Pine has been selected as the preferred species following extensive trials and numerous regime analyses' over time. Trials also exist within the forest evaluating other potential commercial species. The type of tree grown in the Nelson region has good density and branching habit, which assists in meeting product consistency and recovery.

6. Monitoring Forest Growth

Forest growth is measured primarily from inventory data and through growth modeling. NML uses the following software packages to assist in modeling forest growth.

- 300 Calculator
- YTGen
- Woodstock

As well as inventory data, a network of trials exists to assist in improving the growth models. Nutrient levels and forest health are also assessed to assist in monitoring forest growth.

7.1 Inventory

Regular forest inventory monitors forest growth and development over the period of the rotation. Cengea's Forest Management Module (GFMIS) is used as the primary software for the storage of stand records. Inventory monitoring generally includes:

- Pre-assessment as required (age 5-7) – prior to tending operations.
- Quality Control (age 8-12) – following tending.
- Tactical (age 17-23) – to obtain tree size and estimate of recoverable volume by log grade to assist harvest planning and forecast medium and long term log grades.
- Pre-Harvest (24-28) – to obtain estimate of recoverable volume by log grade.

Remapping of forest and cutover is done using aerial surveys. This generally occurs in association with significant forest events such as harvesting or following storm damage.

7.2 Permanent Sample Plots and Trials

Over 100 Permanent Sample Plots (PSP's) exist within the forest. These plots are measured at regular intervals to monitor growth over the rotation. The results of these plots are used to assist in refining forest growth models. A number of other trials exist in the forest monitoring key factors (e.g. silviculture, establishment practices, and genetics).

7.3 Nutrition Monitoring

An annual nutrient assessment is undertaken each year based to monitor the levels of foliage nutrient levels across the estate. Age three trees are targeted but also any stands that are beginning to show signs of deficiencies.

7.4 Forest Health Monitoring

An annual forest health survey is undertaken to the New Zealand Forest Owners Association (NZFOA) standards to detect any potential new pests and diseases as well as monitoring changes in existing pest and diseases.

8. Annual Harvest

Forest Modeling is done on a number of different levels to predict the productivity of the forest estate. Forest Modeling seeks to achieve a non-declining wood yield to be determined as well as predicting the likely grade out turn to assist in developing potential future markets and meeting customer demands.

Harvest Volumes

	<u>2016</u>
Radiata Pine	976,680 m ³
Douglas fir	179,133 m ³
<u>Minor species (Muricata, Eucalyptus, Lawson Misc)</u>	<u>8,060 m³</u>
Total	1,164,172 m ³

9. Harvesting Techniques

Detailed harvest plans with the method of extraction are developed prior to harvesting that take into account the Resource Management Act and regulations, local government guidelines and regulations, terrain, soil and water management, safety considerations, natural areas, financial considerations, and social factors.

At present 18 contract harvest crews operate within the estate. The current split of ground-based verse hauler-based is 20:80.

10. Land Use

Within the estate there are significant areas that are not production forests. The breakdown of these areas is as detailed in Table 1

Table 1 as at End of June 2017

ECOL-DIST	INDIGENOUS FOREST (BUSH)	TASMAN ACCORD and CFL COVENANT	Significant Natural areas (surveyed)	RETRIED area transitioning to native	RIPARIAN set backs	MIXED rgenerating areas (Scrub)	Total set aside areas	PERCENTAGE of working forest in set asides ecological district	PERCENTAGE of working forest in set asides ecological region	WORKING FOREST TOTAL (Planted Area +AWR + Roads + Skids)
ARTHUR	428	151	138	851	43	310	1921	49.3%	49.3%	3898
BRYANT	40	185		123		99	447	33.7%		1326
MOUTERE	1698	341	405	285	266	1177	4172	12.6%	13.3%	33406
FISHTAIL	96		343	31	67	133	670	13.3%		5035
PARA	42		68	52	24	154	340	10.1%		3382
PELORUS	320	575	108	47	135	681	1866	23.5%	17.6%	7956
D'URVILLE	17	58	13		2	28	118	23.0%		513
SOUNDS		25				16	41	36.0%	25.4%	114
ROTOROA	104				4	55	163	14.9%	14.9%	1095
WAIHOPAI			47			2	49	14.6%	14.6%	336
HILLERSDEN	1	83	55	9	5	38	191	3.4%		5630
WITHER HILLS							0	0.0%	3.3%	219
	2746	1418	1177	1398	546	2693	9978	15.8%		62910

11. Socio-Economic Conditions

NML has a sponsorship committee that manages a sponsorship fund. The committee receives applications from community groups and individuals and allocates sponsorship where it sees alignment to the company's values.

Operations carried out in the estate are undertaken with due consideration to the occupiers of neighbouring land. Operations likely to impact on neighbours will not be undertaken without prior consultation.

Recreational use is allowed on a permit basis during periods of low fire risk. Hunting is the most popular recreational pastime in the forest with close to 600 permits issued annually. The number of pigs and deer caught in a year in the forest is estimated at 500-700. Other recreational uses of the forest include horse riding, picnicking, access for fishing & tramping, car rallying events, motorcross events and off-road rallying events.

12. Environmental Monitoring

Regular internal and external environmental audits are carried out to ensure that operations are being carried out to the required standards.

Following harvesting operations a post-operation environmental audit is completed to ensure all remedial works and water controls have been put in place.

An incident/ observations record database exists to record any observations or environmental incidents that have occurred as a result of a climatic event, a breach of EMS standard or a significant adverse effect.

13. Threatened Species

Threatened species are identified and monitored through natural area surveys and through reports from staff, contractors and forest-users. A Threatened Species guide has been provided to all operational staff and crews working in the forest. Everyone is encouraged to report sightings.

Forest operations adhere to standards developed in the Environmental Management System (EMS) that have been developed to protect biodiversity values from adverse effects of forest operations or activities.

14. Further Reading

A full social, economic and environmental monitoring report based on the Montreal Process is prepared annually and it available on the Nelson Forests Ltd. website

<https://nelsonforests.co.nz/environment/>