

# Wenita Forest Products Public Summary

2023



## 1. INTRODUCTION

This document is a public summary of the management plans for:

- A) Wenita Forest Estate
- B) Southland Estate
- C) Kakapo Estate



## 2. FOREST OWNERSHIP & MANAGEMENT

Wenita is a private New Zealand-registered and operated company owned by Taieri Forests Ltd, which has three shareholders:

- New Forests (ANZFF2): 38% shareholding, is an investment fund managed by New Forests, a privately held global investment management company headquartered in Sydney, Australia.
- Stichting Pensioenfonds ABP (APG): 34.3% shareholding, is the pension fund for the government and education employees in the Netherlands.
- Pension Protection Fund (PPF) Investment Holdings 1 Limited: 27.7% shareholding, a statutory public corporation and is one of the UK's largest pension funds, accountable to the UK Parliament through the Secretary of State for the Department for Work and Pensions.

Growing, merchandising, transporting, and marketing logs sits at the heart of what Wenita does. Wenita does not only supply to domestic and international markets, but also provide expertise and services to other forest owners. Wenita Forest Products Limited is the largest producer of timber in Otago and commenced business in 1990 with the purchase of the cutting rights to Berwick and Otago Coast Forests from the Crown. Further forest acquisitions were made in 1993 and 1994. Wenita manages a forest area of 30,000 hectares with 14 staff and approximately 130 contractors.



Ownership	Forest Management Unit (FMU)	Forest	Total area (hectares)
Taieri Forests	Wenita Forest Estate	Berwick	13141
Limited		Mt Allan	4943
		Otago Coast	11280
		Monowai	288
		Whare Creek	277
		Dunrobin	630
		Barnhill	134
	Kakapo Estate	Cairn Peak	835
ANZFF3		Anderson	33
Limited		Christmas	33
Lillited		Hedgehope	123
		Seaward Bush	87
		Mt Trotter	585
		Chinook	119
		Норе	419
		Leckie	88
		Crayburn	242
	Southland Estate	Fox	128
ANZFF2 NZ		Homestead	109
Limited		Old Shed	139
		Tyneholm	132
		Woodslea	122

Table 1: Certified Forest management unit per ownership



#### 2.1 MISSION, VISION, AND VALUES.

#### MISSION

To be a responsible, influential and profitable forestry company, recognised locally and internationally as a preferred supplier of high-quality softwood log products which are produced from sustainable plantation forests.

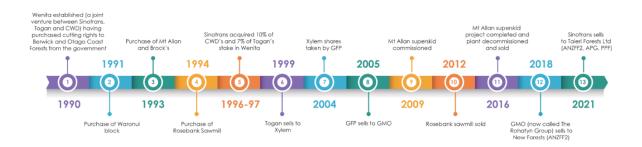
#### VISION

To be a preferred log supplier and employer, dedicated to our core principles of safety, sustainability and profitability.



#### HISTORY

The timeline below shows key events in Wenita's history.



#### 2.2 MANAGEMENT OBJECTIVES

Wenita aims to satisfy the growing demand for forest products by optimizing our contribution to sustainable development, in order to meet current needs without knowingly compromising the needs of future generations. Our business practices seek to create value in both the short and long term, maximizing positive impacts and minimizing eventual negative impacts on society and the environment throughout all our value chain through ethical and transparent conduct.

Underpinning that objective is a commitment to:

#### **Strategic Management**

 assess and review our systems for managing and controlling risks and opportunities.



- continual improvement.
- ensuring our operations are legally compliant and protecting our assets against illegal activities.
- continuing employee and contractor training on environmental, social and governance (ESG) issues and responsibilities.
- annually review the adequacy and completeness of our environmental policy, our environmental management system and the environmental policy statement.

#### **Health and Safety**

 providing a safe and healthy working environment and taking all practical steps to prevent harm to people.

#### **Environment**

- protecting and enhancing areas of significant indigenous habitat and endangered species.
- measuring and reducing our greenhouse gas emissions and implementing practices to mitigate against the impacts of climate change.
- preventing and controlling pollution, fire, pests and diseases.

#### **Community and Cultural Heritage**

- consulting with traditional owners, tangata whenua and other affected stakeholders.
- protecting and managing cultural and historical sites.

#### **Best Practice**

actively seeking to apply evidence based best practices in its operations.

#### **Third Party Certification**

• implementing independent environmental certification of our management systems and practices, including the maintenance of our forest management certification.

#### 2.3 FRAUD AND ANTI-CORRUPTION POLICY

Wenita Forest Products (WFP) has zero-tolerance approach to suspected or proven fraud or corruption and the organisation has policies and procedures that provides guidance on what to do about suspected fraud or corruption and it also aims to raise awareness about how to recognise fraud and corruption and the associated behaviours and circumstances. All instances of suspected fraud or corruption will be investigated and reported to the appropriate authorities.



#### 2.3.1 EMPLOYEE RESPONSIBILITIES

- Employees must take care to protect WFP funds and assets against fraud and misappropriation.
- All employees must follow the controls set out in WFP delegations Policy, Company Expenses Policy and Accounting Policy.
- All employees must abide by the WFP's Code of Practice Policy and the Code of Conduct in Individual Employment Agreements.
- If an employee believes control systems could be compromised, they should report this to their manager, the CFO, the CEO or the Chair.
- If an employee suspects fraud or corruption, they must immediately report their concerns
  to their manager, the CFO or the CEO or if none of these are appropriate, refer to the
  Whistleblower Policy. The employee should not carry out an investigation themselves
  or alert the suspected offender or other employees of their suspicions.
- Managers are responsible for maintaining internal controls. Managers should be aware of, and be alert to, the types of fraud and corruption that might occur.

#### 2.3.2 RECOGNISING FRAUD AND CORRUPTION RISKS

Employees should be aware that, generally, there are three particular conditions often associated with fraud and corruption:

- Incentives/pressures: people have an incentive or are under pressure, which motivates them to commit fraud or wrongdoing (e.g personal financial trouble).
- Opportunities: circumstances exist that allow employees to commit fraud or corruption, such as an employee overriding controls.
- Attitudes: employees are able to rationalise committing fraud.

#### 2.3.3 INVESTIGATIONS

If fraud or corruption is reported, the CFO, CEO or Chair will:

- Set up a thorough internal investigation and preserve evidence, calling in external
  agencies to assist if necessary. The suspected offender will not normally be alerted to
  the fact this investigation is occurring. The investigation will include documentation
  about how the person reporting the suspected offending learned of it; names of anyone
  else involved; evidence to support the allegation and any other information that may
  assist in the investigation.
- Report the matter without delay to the WFP Board of Directors



- Report the matter to the police if the internal investigation confirms the suspicion of fraud or corruption
- Set up a process to recover funds, and
- Deal with any media interest in the matter.

Incidents of fraud or corruption will be treated as serious misconduct and WFP may suspend the employee on pay. If the suspension lasts more than two weeks, for reasons beyond WFP's control, WFP may cease paying the employee for the remaining period of suspension.

#### 2.4 DISPUTE RESOLUTION

To resolve a complaint in a timely and fair manner, and to retain the goodwill of all stakeholder, Wenita Forest Products create the Standard Operating Procedure (SOP) – Complaint Resolution which covers how to proceed since receive the complaint until this resolution. A complaint is defined as a verbal or written criticism or grievance resulting from an action or activity undertaken by Wenita, or its staff member(s) or contractor(s), or likely to result from an intended action or policy.

#### 2.4.1 OPERATIONAL PROCEDURE

- 2.4.1.1 Receipt of complaint. A complaint may be received in a number of ways:
- a. Verbally, in person, for example by the complainant presenting at the front counter of the Wenita office, or by an encounter with a staff member at a meeting etc.
- b. Verbally, by telephone
- c. Written, by letter, email or text message.
- 2.4.1.2 Upon receipt of a complaint, Wenita will provide an initial response to the complainant in the same way in which he complaint was received.
- 2.4.1.3 The person receiving the complaint will record the details n the incident log, and notify the applicable manager, who will record the complaint in the incident log and public consultation file. The staff member most appropriate for the resolution of the complaint will be identified, and the time and process for resolution assessed.
- 2.4.1.4 Depending in the expectations of the complainant this will be followed up with a written or verbal response, with the steps then recorded in the Incident Log.
- a. Acknowledging the receipt of the complaint.
- b. Identify the steps Wenita will take to resolve the complaint, and the subsequent steps that could be considered if the complaint remains unsolved.
- c. Committing to communicate openly with the complainant(s).



- 2.4.1.5 The manager in charge of the complaint will decide whether a formal or informal investigation is appropriate.
- 2.4.1.6 Complaint investigation process. Wenita will investigate the complaint, duly considering:
- a. Whether any breach of rules in operational activities has occurred.
- b. Whether any ongoing activity is causing an unreasonable effect or inconvenience to a stakeholder
- c. Whether changes to processes, the offer of an apology, or consideration of compensation may be appropriate
- d. Any other relevant information or legislation or case law
- 2.4.1.7 Wenita will provide advice to the complainant(s) of the process followed, findings of the investigation, and the Wenita position. The next steps in the event that the clam remains unresolved will be identified, which may involve a legal process.
- 2.4.1.8 To summarise all complaints received and the status of those complaints, the complaints register is updated monthly, to include any recent complaints and any updates on existing complaints. The complaints register is circulated monthly after being updated to all employees of Wenita, to ensure that the Wenita team is aware of what complaints have been received and the required actions are being taken to respond to the complaints.

#### 2.5 TENURE DISPUTE RESOLUTION

The objective of the tenure dispute resolution is to resolve the tenure dispute in a timely and fair manner, and to retain the goodwill of all stakeholders. Any foreseeable tenure dispute is likely to be of a unique nature relating to a specific parcel of land, so this generalised SOP may be of limited value in any particular case but should identify universally applicable principles.

#### 2.5.1 OPERATIONAL PROCEDURE

2.5.1.1 Receipt of dispute / claim.

Upon receipt of a challenge to rightful ownership or occupancy of Wenita land, Wenita will provide a written reply:

- a. Acknowledging the receipt of the dispute / claim
- b. Identifying the steps Wenita will take to evaluate the claim, and the subsequent steps that could be considered if the dispute remains unresolved
- c. Committing to communicate openly with the claimant(s) and to provide progress reports on the status of the claim evaluation
- d. Requesting clarification of the appropriate communication channels for correspondence pertaining to the claim



#### 2.5.1.2 Claim investigation process

Wenita will investigate the claim, duly considering:

- a. Legal position / title
- b. Historic basis of tenure
- c. Give / Take boundaries
- d. Legal liabilities with deforestation
- e. Any other relevant information or legislation or case law
- 2.5.1.3 Advice to the claimant(s) of the process followed, findings of the investigation, and the Wenita position. Also identify next steps in the event that the claim remains unresolved.
- 2.5.1.4 Independent non-binding arbitration
- 2.5.1.5 Legal process

#### 2.6 LEGAL REQUIREMENTS

Wenita Forest Products has a procedure for identifying legal and other requirements, and annually, review all the statues, regulations and agreements held by WFP to ensure they are all up to date.

Below a list of act, regulations and guidelines that affects directly or indirectly the Wenita Forest Products management.

Item	Act/Regulation/Guideline	
	Conservation Act 1987 (Reprint as at 16 December 2017)	
	Native Plants Protection Act 1934 (Reprint as at 1 July 2013)	
Conservation	Soil Conservation and Rivers Control Act 1941 (Reprint as at 1 March 2017)	
	Plant Variety Rights Act 1987 (Reprint as at 1 March 2017)	
	Employment Relations Act 2000 (Reprint as at 1 January 2018)	
Employment Polations	Holidays Act 2003 (as at 31 January 2018)	
Employment Relations	Minimum Wage Act 1983 (as at 1 April 2016)	
	Wages Protection Act 1983 (as at 1 April 2016)	
Fencing	Fencing Act 1978 (Reprint as at 1 March 2017)	
Forest and Rural Fires	Fire and Emergency New Zealand Act 2017 (2017 No 17)	
	Health and Safety at Work Act 2015 (as at 29 March 2018)	
	Health and Safety in Employment Regulations 1995 (as at 15 May	
Health and Safety in Employment	2017)	
	nsation Act 2001 (Reprint as at 29 March 2018)	
	Land Transport Management Amendment Bill	



	Income Tax Act 2007 (Reprint as at 22 June 2018)			
	Misuse of Drugs Act 1975 (Reprint as at 21 February 2018)			
Historic Places	Historic Places Act 1993 (Reprint as at 20 May 2014)			
	Resource Management Act 1991 (Reprint as at 18 October 2017)			
Resource Management	Subsequent Amendments including Resource Management (Simplifying and Streamlining) Amendment Act 2009 (Reprint as at 4 September 2013), (This has been written into 2.7.1)			
nesource management	Local Government Act 2002 (Reprint as at 1 July 2017)			
	Local Government Act 2002 Amendment Act 2010			
	National Environmental Standard – Plantation Forestry 2017 (Reprint as at 1 May 2018)			
Hazardous Substances	Hazardous Substances and New Organisms (HSNO) Act 1996 (Reprint as at 1 December 2017)			
Tangata Whonus	Treaty of Waitangi Act 1975 (Reprint as at 22 August 2017)			
Tangata Whenua	Walking Access Act 2008 (Reprint as at 1 July 2013)			
	The New Zealand Forest Accord			
	Principles for Commercial Plantation Forest Management in New Zealand			
New Zealand agreements	Log Transport Safety Accord 2001, Log Transport Safety Accord 2008			
	New Zealand Climate Change Accord 2008			
	Good neighbourly relations Memorandum Of Understanding 2013			
	Otago Regional Council - Regional Plan: Water 2015			
	Otago Regional Council - Air 2009			
	Otago Regional Council - Coast for Otago 2012			
	Otago Regional Council - Waste 1997			
	Otago Regional Council - Regional Policy Statement for Otago 1998			
	Otago Regional Council - Regional Land Transport Strategy for Otago 2011			
	Otago Regional Council - Otago Regional Land Transport Programme 2012-2015			
Regional and District Plans and Strategies	Otago Regional Council - Otago Southland Regional Land Transport Plans 2015-2021			
C	Otago Regional Council - Operational Plan for the Pest Management Strategy for Otago 2009			
	Otago Regional Council - Pest Management Strategy for Otago 2009			
	Otago Regional Council - Policy On Dangerous Dams, Earthquake Prone Dams and Flood-Prone Dams 2011			
	Clutha District Council - District Plan			
	Clutha District Council - CDC Rural Fire Plan			
	Clutha District Council - CDC Annual Plan			
	Dunedin City Council - District Plan Volume 1			



	Dunedin City Council - District Plan Volume 2	
	Dunedin City Council -Long Term Plan 2012/13 – 2021/22 and Annual Plan	
	Dunedin City Council - DCC Community Plan	
	Dunedin City Council -Track Policy and Strategy 1998	
	Dunedin City Council - Rural Variation 9A 2003	
	Dunedin City Council -DCC Rural Fire Plan	
	Dunedin City Council -Biodiversity Strategy 200	
	Kai Tahu ki Otago - Natural Resource Management Plan	
	Invercargill City District Plan	
	The Southland District Plan	
	Environment Southland – Regional Water Plan	
	Southland Regional Pest Management Plan	
	New Zealand Environmental Code of Practice for Plantation Forestry – 2015	
	Approved Code of Practice for Safety and Health in Forest Operations	
	ACoP: Roles and Responsibilities of Principals and Contractors	
	Certification - Principles and Criteria	
	Certification - Forest Management Checklist NZ	
	Approved Code of Practice for Operator Protective Structures	
Industry Codes of Practice and Best Practice Guidelines	Code of Practice for the Management of Agrichemicals (NZS 8409:2004)	
	Code of Practice – Eliminating Alcohol and Other Drugs from the Workplace	
	Quarry Management in Forests 2015	
	NZ Forest Road Engineering Manual	
	NZ Forest Road Engineering Manual – Operators Guide	
	National Environmental Standard for Plantation Forestry (in development) Consultation Document for interim reference	
	NZ Outdoor Access Code	
	Biosecurity Act 1993 (Reprint as at 28 September 2017)	
	Crown Forest Assets Act 1989 (Reprint as at 1 October 1998)	
	Electricity Act 1992 (Reprint as at 1 July 2017) including	
	Electricity (Hazards from Trees) Regulations 2003	
Other relevant national and local	Soil Conservation and Rivers Control Act 1941 (as at 1 March 2017)	
statues and regulations	Forests Act 1949 (as at 1 January 2016)	
	Trespass Act 1980 (as at 1 July 2013)	
	Wild Animal Control Act 1977 (as at 18 October 2017)	
	Wildlife Act 1953 (as at 16 December 2017)	
	Crown Minerals Act 1991 (as at 18 October 2017)	
	Overseas Investment Act 2005 (as at 1 September 2017)	
	Climate Change Response Act 2002 (as at 1 September 2017)	
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	Commerce Act 1986 (as at 16 December 2017)		
	Companies Act 1993 (as at 1 January 2018)		
International Conventions and	Convention on Biological Diversity.		
Principles	Cites (Trade in Endangered Species).		

#### 2.7 OUR FORESTS - ECONOMIC AND SOCIAL CONTEXT

#### 2.7.1 SOUTHLAND REGION

Southland is New Zealand's most southern region. It has a total area (land and sea) of 5504874.43 hectares. This area includes several off-shore islands, the largest being Stewart Island/Rakiura. The neighbouring regions are Otago and the West Coast.Southland has an extensive coastline, the longest in the country at 3,000 km.2 On the mainland, the coastline stretches from the Waiparau Head in the Catlins to Awarua Point in Fiordland.

The Southland region extends 12 nautical miles (approximately 22 km) seaward from the coastlines of both the mainland and off-shore islands to the limit of New Zealand's territorial waters. To the north, mountain ranges generally provide a barrier between the region and the remainder of the South Island. These ranges include the Eyre Mountains and the Darran Mountains. Southland is one of New Zealand's more sparsely populated regions. The total population of Southland at the 2013 Census was 93,3429 people. This equates to 2.2% of New Zealand's population. The Gore District has a population of 12,03311, the Southland District has a population of 29,61312 and the Invercargill City District has a population of 51,69613. Invercargill is the largest settlement in Southland and Gore the second largest.

Approximately 30% of Southland's population lives in rural areas. There are also several other smaller towns throughout Southland including Winton, Te Anau, Bluff and Riverton/Aparima. Most of the population is concentrated on the eastern Southland Plains, with Fiordland almost totally devoid of permanent human settlement. The attractions of Southland's National Parks cause the region's population to swell in the summer months due to an influx of tourists.

#### 2.7.2 OTAGO REGION

Otago is New Zealand's second largest region, spanning 32,000 square kilometres, or 12% of New Zealand's total land area. Otago boasts a diverse landscape - from rugged coastlines to spectacular mountains. The Otago region extends from the Waitaki River in the north to The Brothers Point in the south and inland to Lake Wakatipu, Queenstown, Hawea, Haast Pass and Lindis Pass. The coastline stretches 480 kilometres from the Waitaki River to Wallace Beach in the south. Otago spans the local government districts of Queenstown Lakes, Central Otago, Clutha (South and West Otago), Waitaki (North and East Otago) and Dunedin City. The region is covered by the Otago Regional Council, except for part of Waitaki district, which is



affiliated with Canterbury Regional Council. While the Waitaki District falls partly within each of the Otago and Canterbury regions, 90% of its population live in Otago.

Otago is made up of five territorial authorities: Dunedin City Council, and Queenstown Lakes, Waitaki, Central Otago, and Clutha District Councils. Otago's population at the 2018 Census was 225,1861. Dunedin City has the largest population of the Otago territorial authorities at 126,255, followed by Queenstown Lakes District at 39,153, Waitaki District at 22,308, Central Otago District at 21,558, and Clutha District at 17,667. Growth is not evenly distributed across the region, with the fastest growing district being Queenstown Lakes.

Otago's economy centres around agriculture, tourism, mineral mining, and education. The University of Otago enrols approximately 20,000 students each year from around New Zealand and internationally, contributing to annual population spikes in Dunedin and significantly boosting the economy. Tourism has also had a significant impact on the regional economy, contributing about a quarter of the region's total gross domestic product. This is the highest of any region in New Zealand, and primarily concentrated in the Queenstown Lakes District. Renewable energy generation facilities meet a large portion of regional and national energy requirements. Significant hydroelectric generation facilities in Otago are in the Central Otago, Clutha, and Queenstown Lakes Districts. Additionally, Otago has two wind farms, located in the Clutha District.

The agriculture profile of Otago is different from many other regions. No single industry dominates in the way that dairy does in Taranaki or Southland. Pockets of dairying in Clutha and Waitaki are sat against a strong backbone of sheep and beef across the region. The horticulture, pip and stone fruit industries are strong and growing, and wine growing is a significant sector. Access to water and irrigation is a major factor in supporting agriculture development in some parts of the region. Weather can be a significant risk to these industries, particularly in Central Otago where it can impact on seasonal workforce demands and the availability of water. The visitor industry is very strong, with tourism representing 15.3% of the total regional gross domestic product (GDP). The visitor industry is concentrated on Queenstown with over five million international visitor nights each year. It is also multiseasonal, flattening out the peaks and troughs. While there is strong tourism growth in Dunedin, it is still significantly reliant on the Government-funded health and education sectors.

Engineering and manufacturing are legacy industries that are expected to show signs of resurgence after having struggled for a long period. This has involved companies re-gearing themselves to a modern technology market or new start-ups. These entities are largely Dunedin and Oamaru-based and form an important platform for future development. The scale of enterprises is also changing. While Dunedin has lost many of its legacy corporate entities, some remain in the engineering and financial industries. Rather like "ground cover" there are new industries growing on the "forest floor". Many do not yet have significant scale, but they will in time. Similarly, the small business profile of the region, especially in the visitor industry, is giving way to growing corporate entities with the scale to mount larger infrastructure projects. Along with the largest hospital build in New Zealand's history, these are important developments when looking ahead. The lagging nature of statistics means not all of these changes are showing up in the data as yet, but the pace at which they are evolving means they will in the near future.



#### **2.7.3 NGĀI TAHU**

Ngāi Tahu are tangata whenua of the entire Southland and Otago region. Ngāi Tahu have occupied the area and used its natural resources for centuries and have a special relationship with the land, air, water and natural resources.

Waitaha, the first people of Te Waipounamu, journeyed on the Uruao waka and settled in Kā Pākihi Whakatekateka o Waitaha – the Canterbury Plains. Ngāti Māmoe and then Ngāi Tahu followed. Through warfare, intermarriage and political alliances a common allegiance to Ngāi Tahu was forged. Ngāi Tahu means the 'people of Tahu'. The traditions of Waitaha, Ngāti Māmoe and Ngāi Tahu are embedded in our landscape.

Ngāi Tahu formed permanent and semi-permanent hapū settlements in coastal and inland regions supported by an intricate network of mahinga kai (customary food gathering sites). Whānau travelled seasonally between mahinga kai sites enjoying the bounty of seafood, eels, birds and plants, leaving traditions, knowledge and rock art to guide future generations. Hapū traded pounamu and other resources regionally and nationally. The iwi would come together to defend the tribal takiwā (territory) against aggressors from the north.

Ngāi Tahu learnt to adapt quickly living in this formidable southern environment. Possessing an entrepreneurial character, seized upon the economies of whaling, sealing and the export of flax and provisions such as potatoes and grains. By the 1830's, Ngāi Tahu had built a thriving industry supplying whaling vessels and had become the backbone of the South Island economy.

The Treaty of Waitangi/Te Tiriti o Waitangi was signed locally by Ngāi Tahu in 1840 at Ruapuke Island in Foveaux Strait, as well as other places in Te Wai Pounamu (the South Island) and guarantees rangatiratanga, the right of tangata whenua to manage their lands and natural resources in accordance with cultural traditions. Not long after the Ngāi Tahu ancestors signed the Treaty of Waitangi, Ngāi Tahu entered contracts with the Crown to sell some of their land, with the promise of the creation of reserves sufficient for Ngāi Tahu to thrive; as well as the provision of key social infrastructure including schools and hospitals. In the 21st century, Ngāi Tahu identity continues to evolve and adapt as it has always done. The responsibility of current generations is to honour the deeds and values of tīpuna and to create an inheritance for future generations.

#### 2.7.4 FORESTRY INDUSTRY

The Otago and Southland regions have a long-established forestry and wood processing presence going back nearly 170 years. The regions have a plantation estate of 222,731 hectares (Ministry for Primary Industries 2023a) with a number of plantings in their third and fourth generation. This puts Otago and Southland second only to the Central North Island regarding wood supply (albeit just in front of Northland).

Plantings of exotics are diversified within the Otago and Southland regions. Nearly 45 percent of the planted forestry area is in species other than Pinus Radiata. Foremost among those



species is Douglas Fir, which occupies 26 percent of the planted area (Ministry for Primary Industries 2023a). Some forestry companies have specifically been attracted to the region because Douglas Fir grows well.

As a wood processor, Otago and Southland have three major processors and a number of smaller sawmills that service the region. Approximately 70 percent of the wood harvested is exported as logs.

Timber processing has experienced its fair share of change over the past twenty years in both regions. There was a period of steady expansion in the 1990s and 2000s. This included a medium-density fibreboard factory and veneer plant. Lately, the processing sector has experienced restructuring with mill takeovers and closures.

The total national forestry contribution to New Zealand's GDP was \$4,266 million in 2020. This comprised Forestry and logging (\$1,745 million), Forestry support services (\$295 million), Wood manufacturing (\$1,975 million), and Pulp and paper manufacturing (\$251 million). Though Otago and Southland are primary pastoral farming regions, forestry still plays an important role. Forestry GDP in Otago and Southland accounts for \$146 million and \$120 million, respectively.

#### 2.8.1 WENITA ESTATE

#### 2.8.1.1 BERWICK FOREST

Topography varies from flat through rolling to steep. Altitude ranges from 100 metres above sea level (m asl) in the east to over 600 m asl in the northwest.

Soil types range from lowland to upland and high-country yellow brown earths belonging to the Warepa, Waitahuna, Tuapeka and Waipori series. Soil drainage and fertility are adequate for good tree growth without application of fertiliser.

Climate varies from maritime to an inland type with rainfall ranging from 700mm to 1000mm annually. The prevailing wind is from the southwest and can be strong to gale force at times. This wind can also bring snow during winter that can cause tree damage.

#### 2.8.1.2 OTAGO COAST FOREST

Topography is mainly rolling with broad ridges and steep faces falling to watercourses. Altitude ranges from sea level to 440 m asl. Altitude does not significantly affect tree form in this forest.

Soil types are yellow grey to yellow brown earths of the Kaitangata, Henley, Akatore and Taratu series. Soil drainage and fertility are adequate for good tree growth without application of fertiliser.

The climate is coastal with rainfall between 600mm and 700mm annually. The prevailing winds are moist, cool, easterlies with hot dry westerlies common in the spring.

#### 2.8.1.3 MT ALLAN



Terrain is moderate to very steep hill country, generally consisting of long slopes. Soil types consist almost entirely of yellow brown earths of the Tuapeka and Tuapeka Hill series. Soil drainage and fertility are adequate for good tree growth.

Altitude ranges from 100m to 715m asl. Tree form and growth over most of the forest is very good, but at the higher altitudes there is marked deterioration.

#### 2.8.2 KAKAPO ESTATE

#### **2.8.2.1 CAIRN PEAK**

This forest lies on the eastern slopes of the Taringatura Hills on Dipton Flat Road, approximately 65 km from Invercargill. Topography comprises big rolling hills, including steep faces and gullies. Altitude ranges from 200 metres to nearly 500 metres above sea level. Light snow can be expected in winter; however, pockets of significant snow damage can occur on the steeper North East faces.

#### **2.8.2.2 DUNROBIN**

Dunrobin lies on the eastern foothills of the Takitimu Mountains and is approximately 85 km from Invercargill. It is accessed from the Wreys Bush - Mossburn Road via a formed right of way. Topography comprises broad, easy sloping ridges with steeper sidelings. Altitude ranges from 400 metres to nearly 700 metres above sea level. Light to heavy snowfalls occur in winter, as evidenced by occasional snow damage on the ridge tops and gullies where snow "dumping" occurs.

#### 2.8.2.3 HEDGEHOPE

Hedgehope Forest is 22 km from Winton and 30 km from Mataura. Access is by public roads that are suitable for logging traffic.

Hedgehope Forest was planted in 2004. It is on rolling country that will be easily harvested. The site productivity for Radiata pine is expected to be high compared to the average in Southland.

#### **2.8.2.4 CRAYBURN**

Crayburn forest is approximately 4 km southeast of Milton on the Tokoiti - Toko Mouth Road. Access is by way of a legal right of way through adjacent farmland. The topography is dominated by a steep-sided gully system with an extensive rolling ridge top area. Access has now been opened up as part of the forest has been harvested, with the balance of the forest not needing major roading expenditure. The altitude of the forest ranges from 100 to 300 metres above sea level. Forest productivity in the area is generally good. The anticipated site index for this block is SI 26 - 29. This site index compares to the Southland forests, which are generally less than SI 26 (down to SI 20 in parts of Dunrobin forest).

#### 2.8.2.5 CHINOOK



Chinook forest is approximately 65 km northwest of Dunedin and 8 km southwest of Palmerston on Mt Trotter Road. Access is gained off Mt Trotters Road. There is a major access road through the forest that will require minor upgrading for harvesting traffic. The altitude of the forest ranges from 100 to 240 metres above sea level. Forest productivity in the area is generally good. The anticipated site index for this block is SI 26 - 29. This site index compares to the Southland forests, which are generally less than SI 26 (down to SI 20 in parts of Dunrobin forest).

#### **2.8.2.6 MT TROTTER**

Mount Trotter Forest is approximately 65 km northwest of Dunedin and 12 km southwest of Palmerston on Mt Trotter Road. Access has now been opened up as part of the forest has been harvested, with the balance of the forest not needing major roading expenditure. The altitude of the forest ranges from 150 to 200 metres above sea level. Forest productivity in the area is generally good. The anticipated site index for this block is SI 26 - 29. This site index compares to the Southland forests, which are generally less than SI 26 (down to SI 20 in parts of Dunrobin forest).

#### 2.8.2.7 WHARE CREEK

Whare Creek forest is situated near the Waiau River south of Manapouri on the Blackmount Redcliff Road, approximately 115 km from the Craigpine mill at Winton and 175 km from the export port at Bluff. The area is flat at an altitude of about 300 meters above sea level. As a second rotation forest, sufficient access for harvesting and future roading will be restricted to upgrading the existing road network.

Light snowfalls can be expected in winter, and productivity would be regarded as low to medium.

#### 2.8.2.8 SEAWARD BUSH

This forest lies 7 km to the east of Invercargill on Mason Road. Topography is flat to low undulating. The flat parts are a peat swamp that has been drained using a network of deep trenches. Most of the forest is second rotation and is served by a network of roads from the previous logging. Harvesting will be undertaken using ground-based systems.

#### **2.8.2.9 MONOWAI**

Monowai forest is situated near the Waiau River south of Manapouri on Sunnyside Road (near the intersection of Lake Monowai and Sunnyside roads). The forest is approximately 103 km from the Craigpine mill at Winton and 141 km from the export port at Bluff. The area is flat to rolling at an altitude between 160 and about 400 meters above sea level. Light snowfalls can be expected in winter, and productivity would be regarded as low to medium.

#### **2.8.2.10 ANDERSON**



Anderson forest is located on Bell Road, off the Lumsden-Dipton Highway (SH6). The forest is approximately 33 km from the Craigpine sawmill and 90 km from the export port at Bluff. The area is flat to rolling at an altitude between 190 to 290 meters above sea level. Productivity would be regarded as medium-high.

#### 2.8.2.11 BARNHILL

Barnhill forest is located off Felton Road, near Mossburn. The forest is approximately 57 km from the Craigpine sawmill and 115 km from the export port at Bluff. The area is gently sloping to rolling steep, with some steeper areas and is suitable for ground-based harvesting. The forest ranges from 345 to 500 meters above sea level and is relatively exposed to the wind, which should be factored into both harvest planning and re-establishment planning.

#### 2.8.2.12 HOPE

Hope forest is approximately 65 km northwest of Dunedin and 10 km southwest of Palmerston on Mt Trotter Road. Access is gained off Mt Trotters Road. There is a major access road through the forest that will require minor upgrading for harvesting traffic. The altitude of the forest ranges from 100 to 240 metres above sea level. Forest productivity in the area is generally good. The anticipated site index for this block is SI 26 - 29. This site index compares to the Southland forests, which are generally less than SI 26 (down to SI 20 in parts of Dunrobin forest).

#### 2.8.2.13 CHRISTMAS FOREST

Christmas forest is located on Spirit Burn Road, off the Lumsden-Dipton Highway (SH6) near Dipton. The forest is approximately 33 km from the Craigpine sawmill and 90 km from the export port at Bluff. The area is steep and will require cable harvesting. Most of the area has been harvested, so road construction will be upgrading the existing roads and landings. The forest ranges in altitude from 197 to 400 meters above sea level.

Forest productivity is medium when compared to the rest of the Southland region.

#### 2.8.2.14 LECKIES

Leckies forest is approximately 65 km northwest of Dunedin and 6 km southwest of Palmerston on Mt Trotter Road. Access is gained off Mt Trotters Road. There is a major access road through the forest that will require minor upgrading for harvesting traffic. The altitude of the forest ranges from 100 to 240 metres above sea level. Forest productivity in the area is generally good. The anticipated site index for this block is SI 26 - 29. This site index compares to the Southland forests, which are generally less than SI 26 (down to SI 20 in parts of Dunrobin forest).

#### 2.8.3 SOUTHLAND ESTATE



Topography is characterized by rolling hills cut by gullies, with creeks draining into Habukinini Creek to the west and Waimahaka Stream to the south. Elevation varies from approximately 140 metres above sea level in the west and southeast, to 274 metres in the northeast.

The site is within the catchment of the Titiroa Stream and within the Tahakopa Ecological District, which is a large ecological district including the hills leading to the Mataura Valley, along the Catlins Coast to Nugget Point. The district is characterised by a series of parallel hills and valleys formed by folded Jurassic marine and estuarine sediments (sandstones and mudstones) of the Southland Syncline; mostly below 600 metres above sea level (McEwen 1987). It is a high rainfall area of 800-1,400 millimetres per year with a moist, cool climate.

#### 2.9 PLANNING

Forest planning is essential for achieving sustainability in forestry. Planting and harvesting planning for timber supply comprises short, medium and long term achievements, aiming at the best utilization of natural resources and minimizing occasional socioenvironmental impacts. Forest planning keeps track of forest ordering to ensure the industry supply. The proper management of planted forests favours crop productivity and contributes to disease and pest control, biodiversity conservation, and protection of springs and ecosystem services - creating a virtuous cycle.

#### 2.10 ESTABLISHMENT & SILVICULTURE

Establishment is arguably the most important part of the forestry cycle, because it lays the foundation for the whole rotation. Successful establishment requires appropriate land preparation, good weed control, good tree stocks and delivery logistics, good planting, and follow-up weed control. A failure in any one area can result in a substandard crop. While there may be opportunities for remedial interventions such as blanking, the result will never be as good as a successful initial planting and will always be much more expensive.

Silviculture is "the practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values". The name comes from the Latin silvi-(forest) + culture (as in growing). We often think of silviculture as just being the pruning and thinning of stands, but its scope is much wider.

New Zealand Radiata pine silviculture has historically focused on two different end use objectives – structural timber and appearance grade timber. Appearance grade timber is produced by more intensive silviculture, usually multiple pruning operations and at least one thinning, whereas structural timber was historically grown by using high initial stockings to control branch size, with multiple thinning.

#### 2.11 PRE-PLANTING SPRAYING

The objective of this operation is to kill all weeds on the site prior to planting, so that the planters don't have to battle through weeds or to screef off grass, and planted seedlings are free of competition and can get a good start. Regenerating pines or other conifers can be the most



problematic weeds, and the kill spray should be delayed after harvest for a sufficient period to allow germination and emergence. The general rule of thumb is that any area harvested after the start of December should not be planted until the second winter to allow sufficient regen control.

All chemical work is undertaken in conjunction with HSNO 1996 & NZS 8409:2004: Code of Practice for the Management of Agrichemicals, district plans, New Zealand Forest Owner Associate Environmental Code of Practice and, Wenita Forest Products best management practices.

#### 2.12 LAND PREP

Mechanical landprep involves the raking of slash or scrub into windrows or piles, the rehabilitation of logging tracks and skid sites, and site restoration of environmentally sensitive areas. Landprep is necessary where heavy slash cover would impede planters' progress across a site to the degree that would compromise the new crop or reduce planting productivity to the point of being uneconomic.

#### 2.13 PLANTING

In the forest cycle, planting (or establishment) is the most critical operation. With good site preparation, selection of suitable tree stocks, good tree handling and planting, and suitable weed control, we can maximise productivity for any given site. Radiata pine is the main species used by Wenita Forest Products Limited, for both new land and restocking of cutover stands. It grows well, responds to intensive management aimed at producing high quality logs, and provides timber suitable for a wide range of end uses.

Planted forests provide additional benefits other than wood production. Additional benefits include:

- Erosion control
- Wildlife habitat
- Recreation
- Scenic values
- Water values
- Atmospheric improvement

Planting is normally carried out during winter months, between late May and early September. A prerequisite condition is adequate soil moisture levels. Occasionally, winter droughts can cause soils to dry out to such an extent that planting need to be suspended until significant rain falls.



It is important to survey the recently planted young crop to assess the level of mortality. Even despite getting everything right at planting time, subsequent environmental conditions, hylastes beetle attack and animal browsing can all cause significant mortality in the young stands. The results of the survey will provide the information needed to plan any blanking operations that might be required in the next winter.

#### 2.14 POST-PLANTING RELEASING

Releasing is essential to allow young trees to grow unhindered by weeds. If releasing is neglected or inadequate, then weeds will often out-compete the trees and a poor, patchy stand will result. The releasing technique used is generally a choice between two methods: spot spraying and blanket aerial releasing. Spot spraying is the preferred releasing method because the cost is generally lower, and it is environmentally preferable. Sometimes aerial releasing is necessary due the heavy slash or steepness make foot access dangerous or difficult. Aerial releasing may also be necessary if labour availability is insufficient to allow spot spraying, or if on a dry site it is important to kill all weeds to maximise soil moisture availability to the tree crop.

Also, Wenita Forest Products do another chemical control at age 2/3 to allow the young trees to access sufficient light and nutrients. Gorse and broom growth rates can be faster than the young trees and can quickly overtop the young crop.

All applications of chemical will be monitored subsequent to the application to ensure that the chemical has been effective, that non-target species have not been adversely affected and empty containers have been disposed of according to manufacturers instructions. The Chemical Application best management practices (BMP) allows for comment on the effectiveness of the chemical and application method and disposal requirements. A section in the BMP allows for comment on the effectiveness of the chemical and application method and disposal requirements.

Wenita is actively involved in chemical reduction initiatives research projects where the objectives of the research are effective crop establishment and reducing the effects of competing vegetation as ecologically efficiently as possible.

#### 2.15 PRUNING

In Otago, the historic emphasis has been on appearance grade timber, partly because it is more difficult to grow structural timber here due to naturally lower stiffness, and partly because the shape of the trees, with relatively more volume in the butt logs, favoured pruning regimes. In more recent years, there has developed an acceptance that neither structural or appearance timber necessarily needs to be the objective, but rather the growing of export type (non-structural) sawlogs as a valid regime option. This shift has happened because for many years there hasn't been a consistently wide differential between prices for pruned and unpruned logs to support the extra investment in pruning. The arrival of the nectria fungal disease in the 1990s also reduced the favourability of pruning regimes.



Wenita's Board of Directors have continued to support investment in pruning, and we have a commitment to prune 2650 hectares. The alternative unpruned regime aims to maximise the sawlog volume that can be grown for domestic and/or export customers.

Operation	Steam/ha Treated	Age (years)
P1:1	350	6-7
P1:2	350	8-9

The pruning heights and age are indicatives only, as variable height pruning is practiced, where each tree is pruned of max.

#### 2.16 THINNING

Thinning is cutting down unwanted trees so that growth can be encouraged in those remaining (the final crop trees). It is a relatively low-cost operation, but the intensity and timing can have a major effect on forest growth and profit.

If a stand has been pruned, the selection component of a thinning operation is simplified. Cull trees are those that are left unpruned. If thinners are selecting the crop trees, they should select the correct number of acceptable trees from the non-defective trees, according to the following criteria: vigour straightness branching habit spacing in descending order of importance.

#### 2.17 HARVEST & EARTHWORKS

There are several rules and legislation involving the disturbance of soil, construction of roads, and any earthworks to do with construction and maintenance of roads and harvesting activities. Our business respects all the legislation applicable, the region characteristics and uses efficient systems that rely on equipment that allow an efficient, safe, and environmentally friendly operation.

As soon as the forest reaches its ideal point, logs are harvested to supply domestic and international market. Harvest encompasses all the processes from tree harvest to the disposition of logs, up to the point where they can be transported by trucks.

#### 2.18 CARTAGE

Transport is a key factor and contributes with significant costs. Careful design of the transport system including the truck, specification and configuration is essential in order to maximise the efficiency of the transport operations. The harvested logs are transported according to the Annual Planning. Once this process is defined, loading, routes and trucks distribution are determined considering the environmental and safety requirements.



#### 3. SOCIAL MANAGEMENT

Wenita is committed to recognising the principles of the Treaty of Waitangi, most specifically the principles of partnership and active protection. All sites identified by indigenous people as having cultural significance have been recognised, surveyed, documented, and protected by Wenita.

Where a site has been located, a restriction has been created in Wenita's GIS and a management plan documented in the EMS Manual. This ensures the site is protected in operational plans and monitored or managed for improvement. When records exist to suggest the presence of a site, but the site cannot be located when surveyed, then a restriction has been created in the GIS to ensure operational planners and field crews have a copy of the Accidental Discovery Protocol procedure prior to commencing work in the area.

The discovery of culturally significant sites is managed as per the Accidental Discovery Protocol. The EMS Manager will notify the site investigation to the appropriate authority (i.e. HPT, iwi) for future investigation and subsequent documentation or management.

A similar process is followed for archaeological sites. Wenita has commissioned SPAR in conjunction with local iwi to conduct a cultural heritage assessment in the Wenita estate and develop an Environmental Management System for cultural heritage sites.

#### 3.1 SOCIAL IMPACT

Despite all measures taken to prevent and mitigate adverse impacts, unpredictable losses and damages can still occur, directly affecting the communities resources or livelihood. In the following, examples of adverse social impacts from forestry management and the corresponding mitigation and prevention measures are presented.

Activities	Social Impacts	Preventive and mitigation measures
Spray Released	Inconvenience caused	<ul> <li>Use of products authorized by the</li> </ul>
	by drift to neighbour's	environmental bodies
	areas	<ul> <li>Signalling of the areas</li> </ul>
		<ul> <li>Training of employees that apply</li> </ul>
		the products.
		<ul> <li>Maintenance of equipment used</li> </ul>
		for the application.
		<ul> <li>management of incidents</li> </ul>
Harvest	Increased in the risk of	<ul> <li>Use of up-to-date equipment and</li> </ul>
	accidents	trained and qualified teams.
		<ul> <li>Signals offered to the community</li> </ul>
		to prevent people from
		approaching machinery during
		operation.
		<ul> <li>Management of incidents</li> </ul>



	Change of landscape (visual)	Planning woodlot to be harvesting	
Cartage	Increased in the risk of accidents	<ul> <li>Reduced and controlled velocity</li> <li>Compulsory stops to check and tighten the load.</li> <li>Safe driving voluntary campaigns</li> </ul>	
	Dust	<ul> <li>Speed reduction in areas of risk</li> </ul>	
	Damage of the road	Road maintenance.	
	network	<ul> <li>Monitoring and control of load weight of the timber trucks.</li> </ul>	

#### 4. HEALTHY AND SAFETY MANAGEMENT

Wenita is committed to the health and safety of its employees, contractors and visitors and to the elimination of work-related illness and injury. Wenita embraces health, safety and welfare as a fundamental business objective, and a core component of its company culture. This commitment is embodied in the Health and Safety Policy statement, which promotes health, safety and welfare as a fundamental business objective, which is a core part of the company culture.

The Health and Safety at Work Act 2015, and its subsequent amendments, spells out responsibilities and accountabilities for safety in the work place and has as its principle objective the prevention of harm to employees, contractors and visitors. Our health and safety policy is available on our website https://www.wenita.co.nz/health-safety/ and aiming to:

- Providing and maintaining a safe working environment.
- Ensuring the training or supervision of all employees, contractors and visitors to meet the Company's health and safety standards.
- Encouraging a high degree of health and safety awareness.
- Management and staff leading by example.
- Ensuring employees, contractors and visitors understand and accept their responsibility to promote a safe working environment.
- Involving employees and contractors in the development of health and safety procedures.
- Developing and implementing Best Management Practices to identify, manage and monitor work-related health and safety hazards.
- Actively monitoring, auditing and reviewing procedures to ensure continuous improvement in health and safety performance.



- Encouraging the use of technology that reduces the risk of work-related illness and injury.
- Maintain a Drug & Alcohol Free Forest Estate.
- Providing and maintaining an Employee Assistance Programme.
- Complying with all legislative requirements.
- Encourage all Wenita staff and contractors to keep up-to-date with all Covid-19 vaccination requirements.

Our policy on Health and Safety, together with appropriate codes of practice, and relevant legislation, forms the minimum standard by which work within our forests is carried out.

The main programs developed by Wenita to ensure safety at work involve the preparation of documents that seek to identify the risks of accidents such hazard identification and management, standard safety rules, risk rating, safety alerts, critical rule breach procedure, notifiable work procedure, best management practices, list of standard operating procedures, accident reporting and investigation, Wenita incident Management and reporting procedure, emergency procedures, fire plan and corrective actions.

The initiatives aim to establish and maintain a responsible and transparent relationship with all employees in order to adopt the best existing practices in the industrial, forestry and administrative units. This process helps to build Wenita's reputation among our stakeholders.

#### 5. ENVIRONMENTAL MANAGEMENT SYSTEM

Environmental management is a set of processes and practices of safeguarding the environment by monitoring humans' interaction with their environments and the various components in them, identifying degradation factors and implement strategies to mitigate them and enhance the positive impacts from our activities.

Wenita is committed to being a well-managed, environmentally responsible plantation forest owner and producer of forest products. This commitment is embodied in the environmental policy which is available on our website: https://www.wenita.co.nz/environment/

## 5.1 ENVIRONMENTAL OBJECTIVES, TARGETS AND PROGRAMMES FOR ACHIEVEMENT

The Environmental Objectives and Targets are set by the senior management team. The objectives are developed in line with the environmental policy statement and relate to the specific environmental objectives of the company.

The targets are specific tasks that have been identified as being required for the company to meet its environmental objectives.



The objectives are reviewed annually by management. Senior staff are assigned responsibility and completion dates for targets. When targets are reviewed, completed targets are dropped off, incomplete targets are reviewed, and new targets are identified.

The environmental objectives and targets are reviewed to ensure that they reflect Wenita's legal and other requirements, its significant environmental aspects, its technological options and its financial, operational and business requirements, and the views of interested parties.

#### 5.2 ENVIRONMENTAL ASPECTS AND IMPACTS

An environmental aspect is defined in ISO 14001:2015 as an element of an organization's activities, products or services that may impact, or does impact, the environment. An environmental impact is a result of an environmental aspect. All significant activities were considered their impact to the environment, by the operational staff and managers responsible for those activities.

Example of environmental aspects and impacts of our forest management:

Туре	Adverse	Adverse	Benefic	Benefic
Environmental	Erosion	Risk of fire	Carbon	Biodiversity
Aspect		outbreak	absorption	refuge
Environmental	Water quality	Alteration in	Reduction of	Habitat for
Impact		the physical	greenhouse	New Zealand
		quality of soil	effect	Falcon
Control	Water	Fire plan	CO2	New Zealand
measure	monitoring		sequestration	Falcon
			by forestry	Management
			production	Guide
			and	Plantation
			conservation	Forestry
			areas	

## 5.3 CONSERVATION OF RARE, THREATENED AND ENDANGERED SPECIES AND THEIR HABITATS

New Zealand's plantation forests provide benefits for many environmental services and processes such as clean water bodies and streams, erosion protection, storing carbon, and flood abatement as well as social benefits such as recreation. The plantation forest estate's contribution to New Zealand's indigenous biodiversity is one benefit that is often overlooked or hard to measure.

Many of New Zealand's threatened species find favourable habitats in or adjacent to exotic plantation forests. Some may utilise plantation trees on a full-time basis including kiwi, falcon



(karearea), Hochstetter's frogs, and long-tailed bats. Other threatened species often utilise plantation forests to supplement food supplies but remain reliant on adjacent natural forest (e.g. kaka, kea, kakariki, and kereru). In either case, plantation forests provide key habitats for these species and, with careful management, contribute to their continued survival.

New Zealand has 2,363 species of indigenous plants. Of these, over 30% are threatened or uncommon. Most of New Zealand's threatened plants are endemic, meaning they are not naturally found anywhere else in the world.

In the In the following table, that are examples of fauna and flora that can be found within Wenita, Kakapo and/or Southland Estate.

Classification	Specie	
Nationally Critical	Rohutu (Lophomyrtus obcordata)	
Nationally Endangered	New Zealand falcon (Karearea)	
Nationally Vulnerable Mānuka (Leptospermum scopariu		
Nationally Vulnerable	Southern rātā (Metrosideros umbellata)	
Nationally Vulnerable	White climbing rata (Metrosideros diffusa	
At Risk – Declining	Desert broom (Carmichaelia petriei)	
At Risk – Declining	Matagouri (Discaria toumatou)	
At Risk – Declining	Olearia lineata	
At Risk – Declining Toutouwai/South Island robin		
Nationally Critical	Rohutu (Lophomyrtus obcordata)	

Wenita established baseline information on threatened and endangered species within and adjacent to Wenita forests. From these baseline surveys monitoring programmes were developed to collect data on species composition and changes.

Some actions from Wenita Forest Products to protect RT&E species are:

- Best Management Practices (BMPs)
- Standard Operating Procedures (SOPs)
- Management Plans
- Specie and Habitat monitoring
- Impact monitoring
- Internal audits
- Environmental objectives, Targets and Programmes for achievement
- Planning and impact assessment at 3 levels: Long term planning, medium term planning and, short term planning.



Job prescriptions

#### 5.4 HIGH VALUE CONSERVATION

When the values are considered extraordinary, the forest can be classified as a High Conservation Value Area (HCV Resource Network, 2007), and is targeted by Wenita's management to maintain or improve its attributes. The company has used as a reference the criteria for attributes based on and adapted from The General Guide for Identification of High Conservation Value, HCVRN, edited in 2018.

In summary, a High Conservation Value area is the area of natural habitat required to maintain or enhance a High Conservation Value. A HCV area may be part of a larger habitat, for example a riparian zone protecting a stream that is the sole supply of drinking water to a community or a patch of a rare limestone-loving forest within a larger forest area. Elsewhere, the HCV area may be the whole of a habitat, for example a large forest management unit, when that forest contains several threatened or endangered species that range throughout the forest. Any habitat type – boreal, temperate or tropical, natural or modified by humans, can potentially be designated an HCV area, because HCV designation relies solely on the presence of High Conservation Values within the habitat.

The 6 types of HCV follows:



HCV1. Areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).



HCV2. Globally, regionally or nationally significant large landscape-level areas where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.



HCV3. Areas that are in or contain rare, threatened or endangered ecosystems.



HCV4. Areas that provide basic ecosystem services in critical situations (e.g. watershed protection, erosion control).



HCV5. Areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).



HCV6. Areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).



Wenita Forest Product has 04 high conservation value (HCV) areas totalizing 36.30 hectares, and each area has its own management plan including, regulatory requirements, environmental values, affected stakeholders, guidelines and monitoring requirements.

#### **5.4.1 HALFWAY RD NATIVE BUSH RESERVE**

Halfway rd native bush is classified as HCV attribute 3 and consist in a patch of mature native bush containing Matai, Kamahi, Rimu, Mahoe, Broadleaf, Three finger, Lancewood, Totara, Manuka and Kanuka. This is the best example of its kind within the Wenita estate.

The environmental values present in these are are: water and soil, recreational values, cultural/historical values and also scientific and ecological values.

The management objectives aiming to protect of the reserve to allow regeneration of indigenous species and expansion to link up with Boundary creek riparian vegetation. The guidelines to protect this area including buffering zones for planting and harvesting, restriction to chemicals, maintenance of tracks. Monitoring is carrying annually, assessing for general condition, pest animal browsing damage and presence of wildlings.

#### **5.4.2 OFFICE CREEK SEEPAGE**

A generally shallow-sided valley with several fingers, some quite steep, from south-east with streams feeding the swampy floors. Broad, mixed Sphagnum/tussock-grassland valley with some substantial finger gullies feeding in from the south-east. Generally, in very good condition with few weeds other than the ubiquitous pasture grasses. This wetland was considered a HCVF area on the basis of HCV3: Forest areas that are in or contain rare, threatened or endangered ecosystems.

The office creek seepage has many environmental values such as: water and soil, scenic, recreational, cultural/historical, and scientific and ecological values. The management objectives aiming to protect the stream and wetland to allow natural regeneration and enhancement of ecological values.

The guidelines to protect this area including setbacks, buffering zones, restrictions on use of chemicals, control and eradication of wildlings. Monitoring is carrying annually, assessing for general condition, and presence of wildlings.

#### **5.4.3 REDPATH RD BOG**

A rare, possibly unique, raised wetland area, in excellent condition. The site comprises a large open area in the centre of which is a substantial raised bog characterised by the shrub, Halocarpus bidwillii and Sphagnum cristatum. Beyond this, the dome of the bog gives way to predominantly Empodisma swamp which almost surrounds the dome, the remaining area being the drainage side with a mixture of red tussock, Chionochloa rubra var. cuprea and Carex coriaceae. This area is in particularly good condition.



This wetland was considered a HCVF area on the basis of HCV3: Forest areas that are in or contain rare, threatened or endangered ecosystems.

The management objectives aiming to protect this area from damage and maintain and enhance its ecological values. Also, maintain the culver draining the wetland under Redpath Road to prevent trout passage. No activity is taken place in this area but monitoring for wildlings, checking the status of the signage identifying the culvet under Redpath Rd as a fish passage barrier.

#### 5.4.4 MANGATUA GALAXIID RIPARIAN ZONES

There are at least three rare non-migratory species populating waterways within the Wenita estate, Dusky Galaxiid (G pullus), Eldon's Galaxiid (G eldoni) and, Taieri Flathead Galaxiid (G depressiceps). These areas qualified as HCV areas on the basis of HCV1: Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values, particularly HCV1.2: Threatened and endangered species.

The Dusky galaxiid is a rare non- migratory species and is 'chronically threatened'. There are three known populations within Wenita's boundaries; Crystals Creek, Munro's Dam and Waitahuna River. Spawning occurs in spring (Oct-Nov) and the fish lay their eggs on/in the vegetation that over hangs the stream. Hatching time is approx one month.

The Eldon's galaxiid is a rare non-migratory species and is 'acutely threatened'. Spawning occurs in spring (Oct – Nov) and the fish lay their eggs around the base of cobble-sized rocks, out of the water. Hatching time is approx one month.

The Taieri flathead galaxiid is a rare non-migratory species and is 'chronically threatened'. There are two known populations located within Wenita's boundaries; Akatore and Narrowdale Creeks. Spawning occurs in spring (Sep-Nov) when the fish adhere their eggs to the underside of cobble-sized particles hinged to the stream bed, at the upstream end of the rock. Hatching time is approx one month.

The management objectives aiming to protect endangered native freshwater species and comply with the NES-PF. The guidelines to protect this area including seek advice of Department of Conservation before installing or modifying culverts, ensure all harvesting techniques are feasible within habitat protection, minimise sediment inputs through harvest management and oversowing and also minimise slash inputs that will impact the stream. Monitoring is carrying annually.

#### 6. MONITORING PROGRAMS

The Wenita Forest Products monitoring program follow-up and oversight procedures for the purpose of evaluating the achievement of the management objectives. The results of the monitoring activities are utilized in the implementation of adaptive management which is a systematic process of continually improving management policies and practices by learning from the outcomes of existing measures.



The monitoring program covers different aspects of our business, such as financial, production, operational activities that can have a significant impact on the environment, species and habitat monitoring, environmental and social impacts, compliance to legal requirements, forest health and sustainability.

Throughout the Wenita Health and Safety, Environmental and Operational Management Systems, situations will arise where a Corrective Action Task (CAT) is required. Whenever a CAT is required, it is important that the action required is clearly defined, responsibility for carrying out the CAT is assigned, that the CAT is completed within a defined timeframe and that a record is kept of the actions taken.

CAT may be required when an actual or potential non-conformance has occurred, or where there is a systems failure. Non-conformance may be identified:

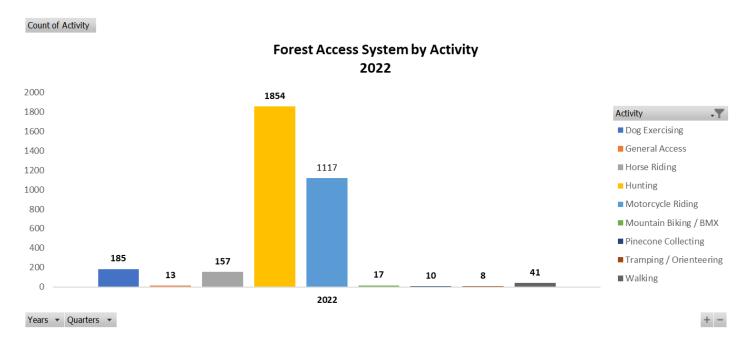
- When there is a breach of safety code of rule;
- When there is a breach of a BMP;
- When there is a public complaint;
- When there is an environmental incident;
- As a result of an internal audit;
- As a result of an external audit;

#### **6.1 FOREST ACCESS SYSTEM**

Our forests are fantastic locations for recreational pursuits, and we are happy to share them with our community.

To enter our forests, you need to obtain a permit via our online Forest Access System or, for some uses, by contacting us directly. More information available at: https://www.wenita.co.nz/use-of-the-forest/





On the calendar year 2022, Wenita Forest Products issued 3,402 permit access to our forests. Most of the activities are hunting (54.5%) followed by motorcycle riding (32.8%), Dog Exercising (5.4%), Horse Riding (4.6%), Walking (1.2%), and 1.4% others such as tramping, pinecone collecting, mountain biking / bmx and general access.

#### **6.2 HUNTING RESULTS**

Hunting is good method of control, since help maintain low population levels of plagues and vector and helps to minimize the use of agrochemicals. Wenita Forest Products monitoring the results of hunting, especially pigs, deers and goats and aiming to increase hunting pressure on those animals to reduce their impacts. Although, Wenita can not guarantee the result from hunting we support this practice and issue as many hunting permits as we can.



Month	<b>▼</b> Number of pigs killed	Numbers of deers killed	Numbers of goats killed
<b>⊞ Jan/22</b>	111	2	2
<b>⊞ Feb/22</b>	260	3	2
<b>⊞ Mar/22</b>	165	2	3
<b>⊞ Apr/22</b>	351	4	22
<b>■ May/22</b>	328	2	25
<b>■ Jun/22</b>	374	8	0
<b>⊞ Jul/22</b>	364	10	1
<b>■ Aug/22</b>	192	4	0
<b>⊞ Sep/22</b>	140	1	4
<b>⊞ Oct/22</b>	199	1	8
<b>⊞ Nov/22</b>	138	1	0
<b>⊞ Dec/22</b>	113	3	0
<b>Grand Tota</b>	l 2735	41	67

In 2022 there was 2,843 animals killed within Wenita area from hunting practices. 96.2% were pigs, 1.4% were deer and 2.4% goats.

#### **6.3 KAREAREA – NZ FALCON**

Kārearea are a medium sized endemic raptor with three distinct forms recognised since the late 1970s (Fox 1977). The three historically recognised regional forms are 'bush' in North Island and northwest South Island forests, 'eastern' in the open country of the eastern South Island, and 'southern' of Fiordland and the Auckland Islands. Recent research showed there is no genetic distinction between kārearea throughout New Zealand, and that rather than three morphs, there are just two; the North and the South Island. Kārearea are rare on Stewart Island and north of the northern Waikato.

Eastern kārearea, those occupying the area of this study, are classed as Threatened; Nationally Vulnerable (B: Moderate, stable population (unnatural)), (Data Poor, Stable) by the New Zealand Department of Conservation (DOC) Threat Classification System (Robertson et al. 2020).



Year	N nests found	apparent nest survival
2016/17	14	79%
2017/18	19	78%
2018/19	18	50%
2019/20	23	65%
2020/21	29	55%
2021/22	32	69%
2022/23	26	77%
Total	161	•
Mean		67%

#### **6.4 WATER SAMPLING PROJECT**

The water sampling project is designed to give indications of sediment amounts moving through identified sampling points in the Wenita Estate. The sampling method is carried out using a clarity tube and sampling done every 3-4 months, with sampling also done during a high rainfall or storm event. A table or guide is used that if sediment continues to be high, then samples will be taken for testing to record sediment amounts in the stream.

#### **6.4.1 RESULTS FOR 2022 PRE-HARVEST**

Date	Site	Average	Score
March	Site 6	75	Good
March	Site7	70	Good
March	Site 8	60	OK
June	Site 6	83	Very good
June	Site7	75	Good
June	Site8	75	Good
October	Site 6	70	Good
October	Site 7	75	Very good
December	Site 6	75	Very good
December	Site 7	75	Very good

#### **6.4.2 RESULTS FOR 2022 DURING HARVEST**



Date	Site	Average	Score
March	Site 5	85	Very good
March	Site 10	100	Excellent
June	Site 5	100	Excellent
June	Site 10	100	Excellent
October	Site 8	65	Good
October	Site 10	100	Excellent
December	Site 8	70	Good
December	Site 10	100	Execellent

#### **6.4.3 RESULTS FOR 2022 POST-HARVEST**

Date	Site	Average	Score
October	Site 5	80	Very good
December	Site 5	85	Very good

The 5 sites monitored throughout the year show that there is range of all 3 harvesting phases happening in the sites. It is pleasing to see that the sites that are currently being harvested are showing no signs of any sediment movement or disruption to the sites when testing. As a result of this there have been no sediment samples taken or investigations carried out. Sure, there have been some significant rainfall events and water quality maybe down at the time, but all sites have recovered.

#### 6.5 STREAM HEALTH MONITORING ASSESSMENT

The Stream Health Monitoring Assessment Kit (SHMAK) is used to assess long term trends in water quality within Wenita's estate. Monitoring should be undertaken twice yearly in late spring/early summer and then again in late autumn/early winter. But is requested to be done over winter. This year's SHMAK testing was done in Spring 2022.

This year's results were mixed, Overall, some sites hadn't changed scores from last assessment where one site improved where one site had dropped significantly in the scoring system. The testing was done in November as there was a noticeable rate of pasture grass and weeds in the scoring so possibly have contributed to overall scores. Water clarity was up and down throughout with typical spring weather making streams discolored.

This year we added a new site in the newly acquired Kakapo Forest Estate. Trotter creek runs between the Mt Trotter forest and Nagi Tahu forest. The Mt Trotter forest is due to be harvested next year.

SHMAK SITES	2021	2022



Mt Allan -Poplar Hut	Moderate	Moderate
Mt Allan- Big Stream	Very Good -Excellent	Moderate
Hopehill-Otokia stream	Very Poor	Poor
Akatore- Taieri Beach rd	Good-Very Good	Moderate
Akatore-Centre Rd	Moderate	Very Good
Akatore-Narrowdales	Moderate	Moderate
Wangaloa -Wangaloa	Moderate	Moderate
Berwick-West Toko	Very Good	Very Good
Berwick-Meggtaburn	Moderate	Moderate
Berwick -Maungatua	Very Good	Excellent
Kakapo Estate-Mt Trotter		Moderate

#### **6.6 FOREST HEALTH**

Annually Wenita Forest Products carry a forest health survey to identify fungi, microorganisms, Foliage disorders and insects that is present in our forests. The survey is a partnership between Wenita Forest and SPS Biota. SPS Biota is a Biosecurity Partner with the Ministry for Primary Industries and provide the most experienced trainers in the industry for Accredited Person and Transitional Facility Operator Training SPS Biota has extensive experience in plant pest surveillance.

The following table shown which fungus and insects can be encountered within the Wenita Forests. Even although there are fungus/insects presents in our forests, the best management practices utilized by Wenita Forest minimize/mitigate the environmental, social and/or economic risks associated with fungus and insects.



Fungus	Common name and description	Host
Amanita muscaria	Mycorrhizal fungus	Wide host range
Amylostereum areolatum	A pathogenic fungus which is vectored by and has a symbiotic relationship with Sirex noctilio.	Introduced conifers
Armillaria sp	Native root rot fungus that can infect trees of all ages. It can kill outright or exists as sub lethal infection.	Wide host range
Corinectria fuckeliana	A fungus which can cause significant deformation of wounded stems. Can also exist as a saprophyte on pine debris. Found in the South Island from Bluff to Banks Peninsula.	Pinus attenuata x radiata, Pinus nigra and Pinus radiata
Cyclaneusma minus	Introduced needle cast fungus resulting in yellow to red needles. Particularly noticeable in spring and autumn.	Pinus spp
Diplodia sapinea	Diplodia sapinea  A wound pathogen. Will cause dieback, stem cankers and total tree mortality. Cause of wood blue stain.	
Dothistroma septosporum	needles. Particularly associated with wet, warm	
Nectriaceae	A group of fungi. Many are pure saprophytes but others  Nectriaceae are pathogens. Corinectria fuckeliana belongs to this  group.	
Ophiostomatoid fungi	Many are weak pathogens often associated with wet or modified sites. Fungi in this group range from significant	
Phytophthora sp (soil borne)	Soil borne organisms. This is a large group of organisms, many of which are pathogens.	Wide host range
Red Needle Cast (RNC)	ed Needle Cast (RNC)  A type of needlecast event now thought to be caused by a species of Phytophthora namely P. pluvialis.	
Suillus granulatus	Mycorrhizal fungus.	Mainly Pinus spp
A decay fungus. Fruiting bodies similar to that of  Thelonectria discophora  Neonectria fuckeliana (a pine pathogen common in the  south of the South Island).		Softwoods



Insect	Common name and description	Host
Acrocercops laciniella	Blackbutt leaf miner. Larvae feed within the leaf structure causing a blister, generally on the upper surface of the leaf. The blister is usually the colour of candle wax, as opposed to the brownish blisters caused by Phylacteophaga froggatti.	Eucalyptus spp
Arhopalus ferus	Burnt pine longhorn beetle. Found in dead wood material, particularly attracted to fire damaged pines but will also be commonly found in stumps and large woody debris.	Larix, Pinus spp & Pseudotsuga menziesii
Coccus hesperidum	A polyphagous scale insect, infrequently located on pine and is not recorded as problematic in NZ.	Wide host range
Epiphyas postvittana	Light-brown apple moth. A native species of Tortricid. Causes needle tying and occasional bud failures of young trees.	Wide host range
Hexatricha pulverulenta	Native squeaking long horn beetle. Larvae are wood and dead branch borers.	Wide host range
Hylastes ater	Introduced bark beetle. Found in dead material and can ringbark and kill small pine seedlings.	Cedrus, Larix, Pinus spp & Pseudotsuga menziesii
Hylurgus ligniperda	Bark beetle. Introduced from Europe. Breeds in the inner bark of recently felled logs, in stumps and in the roots and bases of dead trees.	Larix & Pinus spp
Liothula omnivora	la omnivora  Bag moth. The grey-brown bag is often covered with fragments of vegetative matter, which acts as camouflage.	
Pachycotes peregrinus	Native wood borer. Found in dying trees and dead wood material.	Wide host range (preferring softwoods)
Paropsis charybdis	Eucalyptus tortoise beetle. Distinctly tortoiseshaped, straw to reddish-brown coloured beetle, 8-14mm long. Has been a serious defoliator of Eucalyptus in NZ for over 100 years.	Corymbia & Eucalyptus spp
Pineus sp	Woolly pine aphid. Can cause some tip dieback to a small number of susceptible trees.	Introduced conifers
Platypus apicalis	Native pinhole borer. Found in dead sections of a number of indigenous species, particularly beech. These insects invade stumps and stockpiled logs of exotic conifers and can invade stems of severely stressedand dying trees.	Wide host range
Pseudocoremia fenerata & Pseudocoremia suavis	Native moth. The (looper) caterpillars can cause localised defoliation to plantation grown conifers particularly Pseudotsuga menziesii and Pinus radiata.	Wide host range
Pycnomerus sp.	omerus sp. Most of the 35 species in this family feed on fungi, but some eat small arthropods such as bark beetles.	
Sirex noctilio	Introduced wood wasp. Can kill stressed or damaged trees.	Exotic conifers
Family of caterpillars which feed on the leaves, stem and but of the host plant while sheltering beneath a protective webbit of silk and foliage.		Wide host range

#### **6.7 PESTICIDES AND USE**

Wenita Forest Products is committed to the reduction and the phasing out of toxic and/or bioaccumulative chemicals where viable alternatives exist. Chemicals will only be used to control pests that have been identified as having a negative economic or ecological impact. Chemicals are used as a pest management tool only if it is considered that they are the most judicious method of control and only once all effective alternatives have been considered.

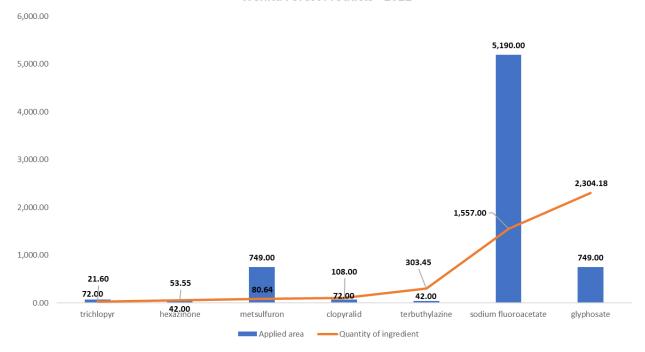
All the chemicals in use by Wenita Forest, had environmental and social risk assessments (ESRAs) which is a process to predict, assess and review the likely or actual environmental and social effects of a well-defined action, evaluate alternatives, and design appropriate mitigation, management and monitoring measures.

Some of generic mitigation and monitoring measures to minimize the risks includes but are not limited to: Develop an operational plan, meet legal requirements, select formula and rates, training, competencies, and job responsibilities requirements, undertake pre-operation consultation with neighbours and community, health and safety hazard identification, clear operational areas of non-authorised people, transport and storage, mixing and loading sites, calibration of equipment, analysis of weather and climatic conditions, prevent leaching and spray drift, social responsibility and care during operations, contain spills, keep operational records and improve operational effectiveness.

The table and graph below represent our chemical usage showing area applied x quantity of ingredient used.

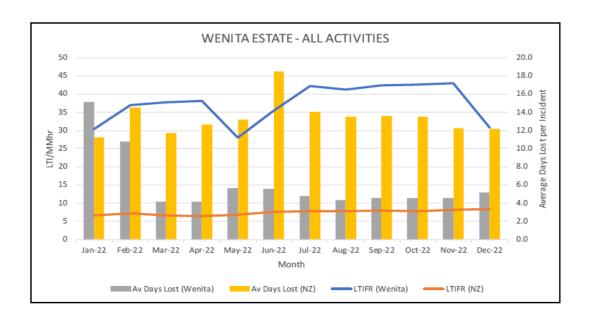
Active ingredient	Applied area	Units	Reason for use	Quantity of ingredient	Unit
Trichlopyr	72.00	ha	Weed control. It is used for pre and post-emergent control of perennial broad-leaved and woody weeds. Will kills hard to control species like blackberry, gorse and broom. Triclopyr is grass friendly.  Lower rates are applied over young pines.	21.60	kg
Hexazinone	42.00	ha	Weed control. Used for pre and post-emergent control of a range of annual and perennial grasses and broad-leaved weeds, and scrub. Will kills hard to control species like blackberry, bracken, common cassinia, Himalayan honeysuckle, wallaby grass, silver wattle, varnish and silver acacia. Also, it will control seedling gorse and broom.	53.55	kg
Metsulfuron	749.00	ha	Pre-plant residual weed control. kills broadleaf and woody weeds including barberry, blackberry, bracken, broom, gorse, manuka, tutu, willows.	80.64	kg
Clopyralid	72.00	ha	Weed control. Used to release trees from gorse, broom and wattles often in conjunction with other herbicides.	108.00	kg
Terbuthylazine	42.00	ha	Weed control. Used for pre and post-emergent control of a range of annual and perennial grasses and broad-leaved weeds, and scrub. Terbuthylazine provides ongoing weed control for several months which eliminates additional weed control operations.	303.45	kg
Sodium Fluoroacetate	5,190.00	ha	Animal pest control, used to control possums, rabbits and hares, wallabies, mustelids and rats.	1,557.00	kg
Glyphosate	749.00	ha	Weed control. Used as a pre-plant desiccant to control a range of annual and perennial grasses and broad-leaved weeds.	2,304.18	kg

### Area applied x quantity of ingredient used Wenita Forest Products - 2022



Note: sodium fluoroacetate was applied by Ospri in the Wenita estate as part of the National Bovine Tuberculosis Pest Management Plan, pursuant to the Biosecurity Act 1993

#### **6.8 HEALTH AND SAFETY**



Lost time Injury Frequency Rate (LTIFR) = (# of Lost Time Injuries \* 1,000,000) / hours worked for the period. (Note that due to our company's size and consequently relatively low manhours, even though this is a 12-month rolling average, any one incident has an impact out of proportion to the national benchmark rate. The Wenita trend line is therefore much more volatile than the national trend.)

Average Days Lost per LTI (Severity) = (# Lost Hours / 9) over the past 12 months / # LTI over the past 12 months. Historically, our average days lost has sat well below the national average, which probably suggests that we are stricter on what constitutes an LTI and reporting it. However, back in February/March 2021, we suffered two incidents that although relatively minor in nature, required, or took, significant time off to recover. Those two incidents have now dropped off our 12-month rolling average and consequently in February/March 2022, our average days lost dropped back to below the national average.

#### 6.9 PRODUCTION AND YIELD

#### **6.9.1 WENITA ESTATE**

In the 2022 calendar year, Wenita harvested 382,000 tonnes of logs from the estate. The annual harvest is expected to increase to over 450,000 tonnes in 2023, and over 500,000 tonnes in 2024. The harvest level is expected to remain over 500,000 tonnes per annum.

Each month Wenita measures the harvested area by forest stand, usually with aerial photography, but sometimes using satellite imagery. The log volumes produced in the month are reconciled with the expected volumes for the areas harvested. For the 12 months to December 2022, the total recovered volume exceeded the yield table volume by 6% for the areas harvested.

#### **6.9.2 KAKAPO ESTATE**

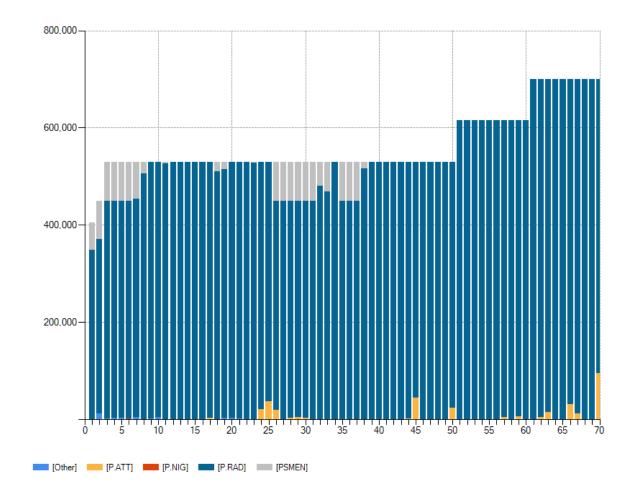
In the 2022 calendar year, 67,000 tonnes were harvested from the Kakapo Estate. The Kakapo estate is a collection of small forest blocks, with various ages and treatments. It is not managed to produce an annual woodflow, but is harvested when trees reach maturity. Harvest volumes are expected to fluctuate significantly from year to year depending on the age classes of the stands.

#### **6.9.3 SOUTHLAND ESTATE**

There has been no harvesting in the Southland Estate forests yet, although some production thinning has been carried out. The dominant age classes are 2000 and 2001 plantings, which are expected to be harvested in the years 2027-2030.

#### 6.10 YIELD ESTIMATION AND GROWTH MODELLING

Wenita measures growth rates and standing volume at various points in the forest rotation. Typically, stands are measured using a sample plotting approach, with inventories at around ages 10, 20 and 24. The yield estimates are projected forward with growth modelling software programs such as Atlas Forecaster and YTGen, and estate modelling is carried out using the Tigermoth optimisation software. Wenita also maintains a network of Permanent Sample Plots, which are useful in monitoring long-term productivity changes across the forest. The Wenita estate Tigermoth model woodflow is shown below:



#### **6.11 TOTAL AREA PLANTED 2022**

Mostly of the forests under Wenita Forest Products management are planting using Pine Radiata due this adaptability to the New Zealand environment and clients requirements, on high altitudes sites, unsuitable for radiata pine, Douglas Fir is planted and managed to provide structural timber. Also, on some high and exposed sites where neither Pinus radiata nor Douglas fir are considered suitable, Wenita has been planting P. radiata x P. attenuate hybrid.

In the calendar year 2022 Wenita Forest Products planted 579.21 hectares which 13.46% was on the Kakapo Estate (77.97 hectares) and 86.5% was on the Wenita Forest Estate (501.24 hectares) and 100% of our planting last year was using Radiata pine.

FMU	Forest	Crop Planting Year	Area (hectares)	Species
Kakapo Estate	Barnhill	2022	37.84	P.RAD
Kakapo Estate	Christmas	2022	28.52	P.RAD
Kakapo Estate	Cairn Peak	2022	11.61	P.RAD
Wenita Forest	Berwick	2022	29.12	P.RAD
Wenita Forest	Berwick	2022	49.03	P.RAD
Wenita Forest	Berwick	2022	19.5	P.RAD
Wenita Forest	Otago Coast	2022	26.39	P.RAD
Wenita Forest	Otago Coast	2022	71.34	P.RAD
Wenita Forest	Otago Coast	2022	40.06	P.RAD
Wenita Forest	Otago Coast	2022	52.63	P.RAD
Wenita Forest	Otago Coast	2022	38.33	P.RAD
Wenita Forest	Otago Coast	2022	85.42	P.RAD
Wenita Forest	Otago Coast	2022	89.42	P.RAD