

# Wairarapa Estate Limited and Norsewood Estate Limited Monitoring Report

For FSC® Certified Forests

December 2021

# Monitoring Strategy

Forest Enterprises' monitoring strategy is aligned with Forest Stewardship Council® (FSC®) Certification, and covers the criteria outlined in FSC-STD-01-001 V5-2 International Standard and FSC New Zealand Standard 3.8 2019 draft.

As at December 2021, Wairarapa Estate Limited (WEL) and Norsewood Estate Limited (NEL) are certified under certificate #FSC- C131650. Forest Enterprises aims to follow FSC principles when monitoring other forest estates under our management.

Forest Enterprises' staff, contractors and their employees follow sound environmental practices for all operations, so that the value of the forest asset continues to be enhanced.

Below is Forest Enterprises' Monitoring Plan, from which a public summary will be published annually.

**Note: Commercially sensitive or personal details are not publicised.**

**Table 1. Forest Enterprises Environmental Monitoring Plan**

Element	Indicators	Rationale	Procedures	Frequency
Crop Yields/ Reconciliation	Tonnes/ha	Efficiency and effectiveness of harvest Accuracy of planning	Volumes from FLITS Compare volumes and grades against inventory predictions	Monthly Full reconciliation at completion of the block
Growth Rates	Increment in tonnes or productivity m3/ha	Productivity of the forest	Permanent Sample Plots (PSP)	Annual Bi-annual Tri-annual
Changes to Flora & Fauna, Indigenous Forest Condition	Species presence/absence Regen present Rare, Threatened & Endangered species (RTE)	Biodiversity monitoring	As per agreed forest monitoring plan Contractor and staff reporting	5-yearly Before and after harvest Summarised annually
Forest Health	New forest pests or diseases	Crop health	Routine forest inspections	As required
Environmental Impacts Assessment	See EIA procedure			As required
Social Impacts	Employee numbers H&S statistics – Loss Time Injury Rate (LTIR)			
Post-Harvest	Waste Soil disturbance	Contract management	Staff visits Post-harvest inspection	Monthly
High Conservation Areas (Ranked '1. Potential HCV/F and 2. High')	Weed and pest control Photo points Wildlands Ltd analysis	Protect and monitor sensitive ecological areas	Weed and pest control visits and monitoring Photo points Wildlands Ltd analysis	Annually and pest control as required Bi-annually
Water Quality	As required by Resource Consent	Ensure operations maintain water quality	SHMAK testing in specific catchments of operational forests	March/April and October/November
Efficacy of Pest Control	Possum Residual Trap Catch (RTC) Hunter returns Compliance reports (weeds)	Maintain forests in good condition Comply with Regional Pest Management Strategy	Cooperate with AHB	As required and annually



Wildings	Removal	Good management practice Comply with RPMS	Spray or fell	As required
Pesticide Use	See chemical requirements			Annual report

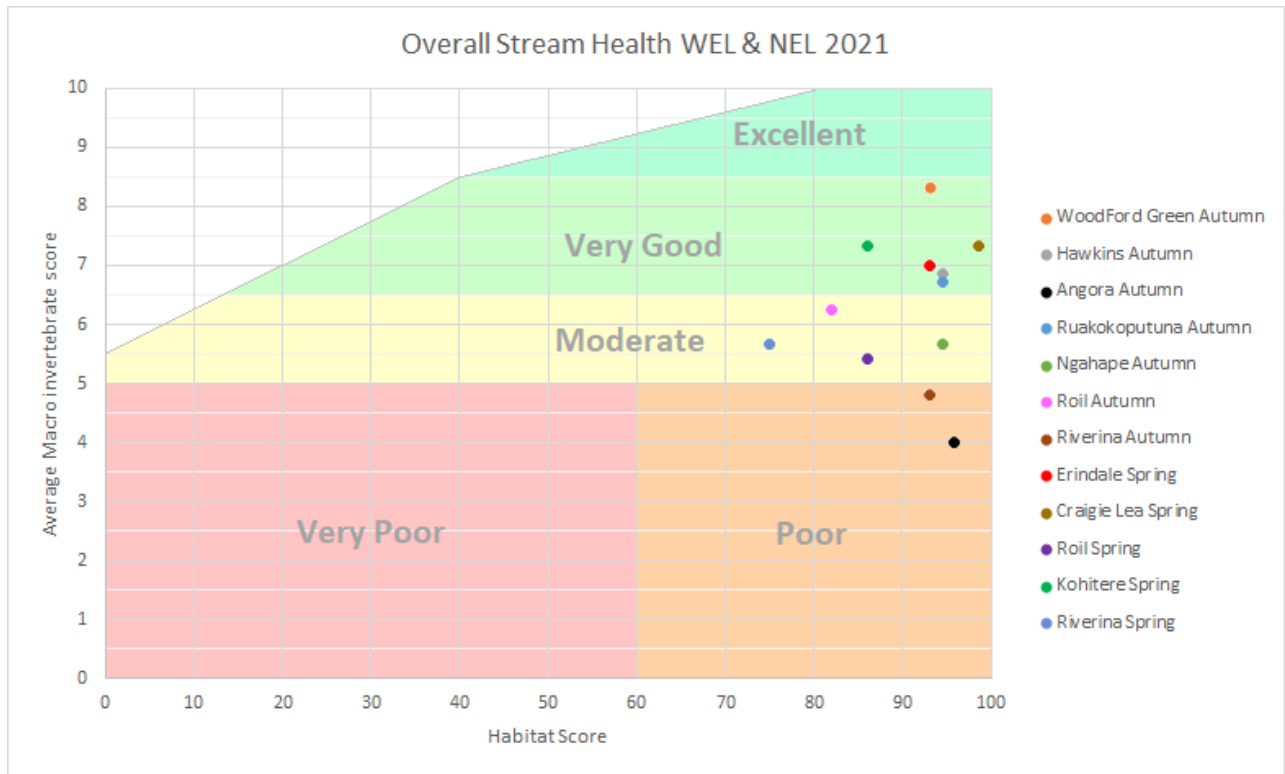
## Native Flora and Fauna

- Plant and pest control are monitored by Forest Enterprises’ staff (traps, wildings, etc.) as well as Hunting Permit Kill count results.
- Rare, Threatened and Endangered (RTE) Species:
  - Forest Enterprises issued updated RTE posters and booklets containing photos of species likely to be seen in WEL and NEL forests.
  - RTE sightings forms are attached to the back of the booklets and is also available through the Survey123 mobile app.
  - As at December 2021, 14 RTE sightings have been recorded in seven forests (13 falcon and one Longfin Eel).
- High Conservation Value Sites:
  - As at December 2021, two HCV sites had been identified (Glenburn Saline Springs & Rocky Hills QEII Covenant).
  - The Saline Springs HCV was monitored. The fence was repaired and in October, Trevor Thompson visited the QEII Covenant and reported the forest had a healthy understory and blooming ecosystem.
  - Forest Enterprises identified the habitat for endemic snails in Kohitere Forest as being HCV3, despite previous ecological consultant reports. A management plan is being developed to ensure its protection.

## Water Monitoring

- SHMAK (Stream Health Monitoring and Assessment Kit) monitoring sites for WEL and NEL have been tested. The streams are mostly *Very Good* or *Moderate*, with two sites being poor (the Riverina site was tested after a storm; the Angora results may be due to human error of identifying macroinvertebrates, more training required).
- Rivers in WEL and NEL are classified in accordance with National Environmental Standards for Plantation Forestry (NES-PF). Regional Water Plans therefore ensure appropriate and best environment practices are used.





### Forest Health Monitoring

- Existing PSP's (Permanent Sample Plots) have been identified and mapped. Monitoring will commence shortly for WEL; for NEL, a plan is currently in review to establish new PSP's.

### Waahi Tapu and Archaeological Sites

- Waahi Tapu and Archaeological Sites have been mapped. New identification/notification booklets and posters have been issued to contractors.
- Five forests had inSite Archaeology Limited perform a comprehensive analysis of past archaeological/heritage sites as a requirement of the Overseas Investment Office (OIO). The purpose of this analysis is to recommend how identified sites should be managed long term.

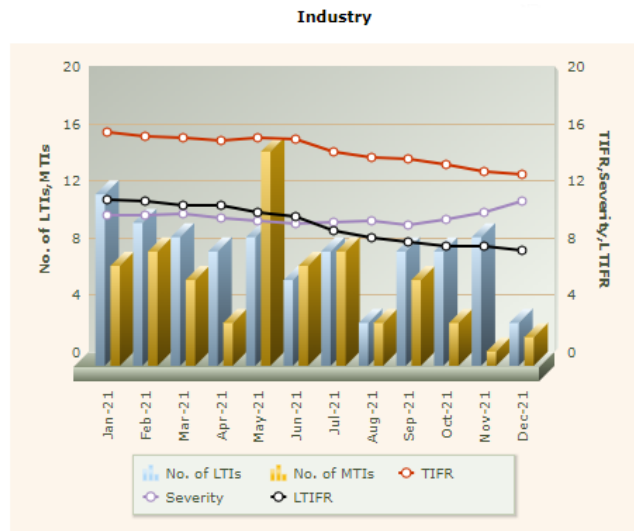
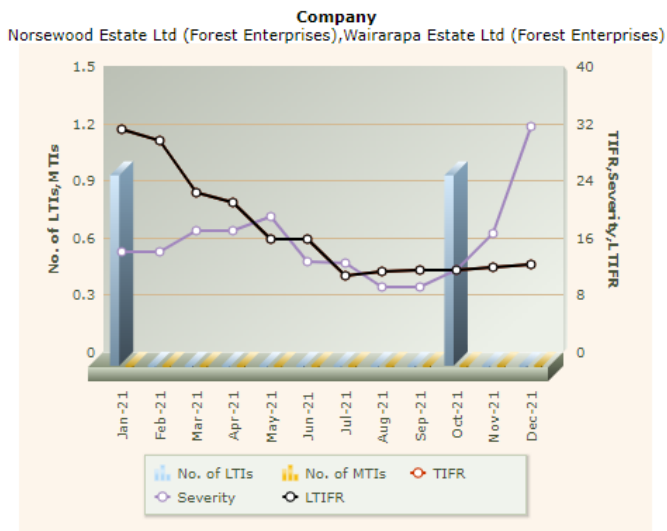
### Health and Safety

Forest Enterprises uses IRIS (Incident Recording Information System) through the New Zealand Forest Owners Association (FOA) to record all accident and incident data, which includes:

- Hours worked
- Near misses
- Medical injuries
- Lost time injuries

The system is used to monitor improvements in Health and Safety, to compare data against industry, and is aligned with our system and goal of "Zero Harm" by 2020.





**Figure 1.** Health and Safety Statistics – Forest Enterprises and Industry, January 2021 to December 2021.

Figure 1 shows WEL & NELs health and safety statistics for the following:

- Total Injury Frequency Rate (TIFR) – Calculated using lost time injuries and medical treatment injuries per 1,000,000 labour-hours worked.
- Lost Time Injury Frequency Rate (LTIFR) – Calculates the number of lost time injuries per 1,000,000 labour-hours worked. For example, an LTIFR of 7 shows that 7 lost time injuries occur on a jobsite every 1 million labour-hours worked.
- Injury Severity Rate – The number of lost workdays experienced per 100 workers. The injury severity rate shows the extent of the safety anomalies by revealing how critical the injuries and illnesses are. The theory is that an employee who takes time to return to work after injury had a more severe problem than one who can return immediately.

### Pesticides and Chemical Use

- Forest Enterprises has 14 FSC approved ESRA's.
- Forest Enterprises continues to be a part an FSC cluster group and follow industry best practices (ECoP).
- Forest Enterprises continues to provide funding into industry cooperative research programmes in order to develop alternatives to highly hazardous chemicals.
- Forest Enterprises monitors the use of pesticides and chemicals (active ingredient and rate applied) within FEL Estate. Below is the list of pesticides and chemicals used during this year:

Type of Pesticide	Commercial name of pesticide / herbicide	Active ingredient	Reason for use
Herbicide	Glyphosate 510	510g/L of glyphosate as the isopropylamine salt	Pre plant spray
Herbicide	Meturon	metsulfuron-methyl	Pre plant spray
Other	Organosilicone	Polyether modified polysiloxane	Pre plant spray
Herbicide	Terbutylazine	Terbutylazine	Post plant spray
Herbicide	Valzine	Hexzinone + Terbutylazine	Post Plant Release Spray

