



TASMAN PINE
FORESTS LTD

**Forest Management Plan
Public Summary**

Updated 23 Nov 2023



TASMAN PINE FORESTS LIMITED
189 MAIN ROAD, SPRING GROVE
WAKEFIELD 7095, NELSON

Table of Contents

1.	Introduction.....	2
2.	Forest Management Objectives	3
3.	Commercial Crop Silvicultural Operations	5
4.	Harvesting.....	9
5.	Environmental Risk Management	10
6.	Reserve areas and Significant Species.....	11
7.	Socio-economic Profile and Stakeholders.....	13
8.	Forest Products and Other Special Values	14
9.	Property Management and Protection	15
10.	Monitoring.....	16
11.	Complaints and Disputes Resolution Process	19

1. Introduction

Tasman Pine Forests Ltd, (TPFL), a subsidiary of Sumitomo Forestry NZ Ltd, manages 35,549 ha of exotic plantation forests in the Tasman, Nelson and Marlborough Districts.

Tasman Pine Forests Ltd (TPFL) is Forest Stewardship Council® (FSC®) certified [Licence number FSC-C132002] and has adopted the FSC Principles and Criteria which are incorporated into the National Standard for Certification of Plantation Forest Management in New Zealand. These standards include ecological, social and economic parameters.

Our current certificate is SGS-FM/COC-010806 issued 7 September 2021 and is valid to 6 September 2026.

Estate Description

The TPFL productive area of the 35,549 ha estate is about 25,735 ha.

The forests are a combination of freehold, forestry right, and lwi lease blocks, (which includes Hira Forest directly behind Nelson City).

The majority (98%) of the planted forest area is established in radiata pine, (*Pinus radiata*), with the balance in Douglas Fir (*Pseudotsuga menziesii*) (1.2%) and some small areas of Eucalyptus and other minor species.

Forest Stewardship Council (FSC®) Certification

The FSC® is an independent not for profit organisation based in Germany, founded to promote the responsible management forests throughout the world. FSC® certification is a means by which our customers and community stakeholders can be confident that our forests are being legally, responsibly and sustainably managed.

All forests certified by FSC® must comply with an international set of rules called the 'Principles and Criteria'. The requirements of FSC® cover the full range of forest management, including complying with the law, environmental requirements (water quality impacts, soils, biodiversity, chemical use etc), social requirements (worker rights, indigenous peoples rights, stakeholder and community benefits etc), alternative benefits of the forest beyond core forest products, and sound and economically viable forest management practices.

FSC® accredits auditors who undertake annual audits of FSC® certified forestry operations to confirm compliance with FSC® requirements.

2. Forest Management Objectives

Provision of services

TPFL's objective is to manage the estate as a renewable and sustainable resource and to obtain an economic return on investment while providing environmental benefits, including:

- Enhanced water quality
- Soil stabilisation and conservation
- Shading waterways for aquatic life
- Enhance wildlife and plant habitat leading to increased biodiversity
- A reduction in greenhouse gases
- Economic and social benefits to the community.

Forest management goals

- Grow trees and produce logs for the manufacturing of different wood products in New Zealand and overseas with a focus on high density structural logs for the domestic market;
- Practice silviculture consistent with best management practices;
- Ensure that the productivity of the land does not decline;
- Ensure that environmental values are identified and maintained;
- Ensure that historic sites are identified and protected;
- Ensure that other forest values and products are identified, protected and where possible enhanced;
- Harvest the trees as close as possible to their economic optimum age;
- Replant following harvesting;
- To promote collective and individual responsibility for health and safety and to maintain an injury free workplace;
- Ensuring that all staff and contractors are trained and competent to undertake their jobs safely.

Stewardship Objectives

- Manage the estate in compliance with relevant legislation, such as the Resource Management Act (1991), the NZ Forest Accord (1991) and National Environmental Standard for Plantation forestry (2017)
- Identify and protect areas of significant ecological and scientific value within the managed forests and put in place processes to protect and enhance identified values.

- Minimise impact of operations on archaeological and cultural sites and ensure compliance with the Historic Places Act (1993).
- Minimise impact of operations on amenity values (visual, noise and air effects) and neighbouring properties.
- Manage and use chemicals responsibly and seek to minimise the use of chemicals in our operations as far as practical.
- Ensure staff and contractors receive appropriate training to comply with the law and the requirements of the company Environmental Management System (EMS).
- Through monitoring and research seek new ways to minimise impacts of forestry operations on the environment, and maximise environmental benefits of forests.
- Recognise the recreational value of the forest estate to local communities and the general public and proactively manage public access taking into account safety of people, environmental considerations and forestry operations.
- Identify areas within the estate that meet the FSC® definition of High Conservation Value Forests (HCVF) and manage these in accordance with FSC® requirements.
- Ensure no bribes or any other form of corruption are received and full compliance with anti-corruption legislation is achieved.

EMS Framework

All activities within TPFL forests are subject to management within a framework set by TPFL Environmental Standards and Environmental Management System (EMS).

The EMS documents policies, processes and procedures for forest environmental management.

Internal audits to ensure compliance with the EMS and to improve the procedures of the EMS are carried out on a regular basis.

3. Commercial Crop Silvicultural Operations

Introduction

Silviculture is the practice of managing the establishment, growth, composition, health and quality of a forest to meet specific objectives.

Forest operations implemented to achieve these objectives include: land preparation, planting, weed control, pest and disease control, fire protection, pruning and thinning, and general property asset maintenance.

Crop species

Radiata pine, when intensively managed, will produce a range of different log types suitable for various processing options. The pruned butt log can be used to make knot-free veneer or decorative timber. The unpruned logs can be used for structural timber, for veneer or for feedstock for finger-jointing. Small logs and those with defects and excessive knots can be used for pulp and paper, MDF and other reconstituted wood products.

Radiata pine is the most common species processed in New Zealand and export markets are well developed for both finished products and logs. It is also the main focus in terms of research and development which has resulted in improvements in growth, form and wood characteristics as well as development of a range of finished products, building codes and timber standards.

Pre-establishment forest flora and fauna

A plantation crop is generally likely to confer beneficial habitat buffering rather than cause adverse effects. However, prior to re-establishment of the tree crop a review will be conducted to identify whether there are any rare, threatened or endangered species of flora or fauna within the area to be planted. Adjustments in planting may be required to accommodate improved environmental outcomes in the subsequent rotation, including the extension of an existing wildlife corridor or riparian area by increasing setbacks at the time of crop replanting. These considerations are covered by the afforestation checklist and riparian rules contained within the EMS.

Establishment

Re-establishment of harvested sites will aim to use high quality tree stocks, targeting high wood density properties and, which are suitable for the site. Re-establishment will generally occur no later than 18 months after harvest.

Land preparation and planting

Prior to planting, the site is prepared to assist the seedling survival rate and promote early growth. This involves spraying of weed species, generally between January and April prior to planting, to remove competition for the plantation crop trees. In some areas mechanical land preparation, (such as slash raking) is also carried out to improve site conditions for tree growth and to provide better access for tree planters.

Herbicides are utilised for weed control prior to planting and in the first one to two years following planting to prevent crop mortality and reduce competition for the planted trees. Once the crop trees outgrow the weed and understorey species, anywhere between one to around three years of age, the trees are 'free to grow' and no further herbicide application is required until the next rotation.

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

All herbicide spraying is carried out in accordance with New Zealand Standard NZS 8409:2004 "The Management of Agrichemicals" and applicable Regional and District Plan rules. The New Zealand standard ensures that where agrichemicals are handled or used, the practices followed are safe, responsible and effective, with minimal adverse impact on human and environmental health. It also requires that agrichemicals are tracked and usage recorded. The standard also includes a commitment to only use herbicides where there is an identified need and only after considering all other practicable alternatives.

When planning herbicide operations, the planner is required to identify areas which must be protected from herbicide over spraying such as significant native riparian vegetation, wetlands, watercourses, important indigenous habitat and neighbours boundaries. In order to safely use herbicides in TPFL forests, education and training sessions are an essential part of company policy.

While it would be ideally desirable to eliminate herbicide use, the practical and economic realities are that some controlled herbicide use is currently unavoidable. For both environmental and economic reasons TPFL aims to use the minimum amount of chemicals required for it to undertake its management activities. The company will actively seek and research ways to reduce the amount of chemicals it uses during its operations. This includes measures such as over sowing and spot spraying where practical (to remove the need for broadcast releasing of trees) and ongoing trials to reduce chemical application rates to as low as possible while still maintaining effectiveness.

Thinning

Radiata pine

Thinning of stands is undertaken by TPFL generally between six to nine years of age, to provide the optimum space for selected crop trees within the stand to grow to maximise their economic return. The aim is to thin out the smaller or poorer formed trees leaving the bigger, better formed trees to grow on to produce high quality structural logs with good form and density. Most thinning operations leave the thinned stems on the forest floor to decompose.

Douglas fir

Some older stands have been production thinned. This regime has been dropped in favour of a single waste thin at about age 15 to a stocking of 500-600 stems per hectare.

Pruning

Radiata pine

Pruning has occurred in some older stands with the aim of producing quality clear wood suitable for veneer or decorative timber, but was discontinued some years ago due to declining pruned log prices and market availability. A small annual pruning program is undertaken to provide work continuity during periods of high fire risk when other operations are not possible and to improve economic return from high productivity sites.

Tree nutrition

Generally, (in the region where the TPFL estate is located), the establishment of forests was on land of low fertility. The soils in the TPFL forests are deficient in one or more nutrients. The most common nutrient deficiencies are:

- Nitrogen –
- Phosphate – This is often associated with clay soils.
- Magnesium – Magnesium deficiency is a particular problem of the Central North Island but also occurs in the Nelson Marlborough region. It is associated with the phenomenon known as mid crown yellowing where the middle of the tree crown turns a yellow colour. Heavily pruned trees and some seed lots are more predisposed to the deficiency than others.
- Boron – Boron deficient trees can suffer dieback from the terminal buds and this symptom is closely associated with moisture stress and drought.

Foliar samples and soil information will determine what the deficiencies are and what type and amount, (if any), of fertiliser will be required to correct the deficiency.

Disease control

Diseases, which can affect the forest trees and adjacent native vegetation, are monitored throughout the year by the forest manager, and once a year by a professional independent forest health assessor through the NZ FOA scheme. Most diseases cause little damage and do not require control. The exception is *Dothistroma*, a fungus which attacks pine needles. This fungus is controlled using a copper-based fungicide, but only when the infection reaches a critical level. *Dothistroma* infection can also be controlled through silviculture by timely thinning operations, which increases air movement and lowers humidity levels.

Animals:

The main animal pest in the TPFL forest estate is the introduced possum. Possums attack the growing tips of both plantation and native trees, causing stem malformation and die back. Possums are also a threat to neighbouring farmers as they can carry and spread tuberculosis to domestic stock.

Other pests include rabbits, pigs, hares and goats at time of establishment.

Animal pests in the TPFL forests will be controlled using ground control methods as required, which prevent impacts on non-target species. The forest manager will coordinate operations with organisations such as the Regional Council and the Department of Conservation to achieve effective and efficient control within the forest area and on neighbouring land, where required. In addition, recreational hunters are encouraged in the TPFL forests to help control deer and pigs.

Fire prevention and control

With the weather patterns normally experienced in New Zealand during the period late spring/summer, fire can be a real threat to the forest. This can be minimised by:

1. Having an effective fire plan
2. Active prevention measures which include restrictions on allowable access, fire prevention signage, publicity when fire danger prevails, access to adequate water sources, constructing and maintaining water ponds and firebreaks, and selective forest grazing to reduce fuel within stands;
3. Effective detection systems which include good communication systems, mapping, and fire plan alert procedures;
4. A close link with the relevant fire authorities, and an understanding of equipment and trained manpower requirements, and
5. Good forest management that recognises the influence of terrain, roading network and accessibility, and fuel build-up from silvicultural practice, that will influence fire prevention and control measures.

Rural Fire Authorities

The legal responsibility for fighting forest fires lies with Fire Emergency NZ (FENZ).

In the event of a fire that starts within the forest, FENZ is responsible for attending and providing the resources to extinguish the fire.

All forest-level information in the event of a fire is available to FENZ. This information includes forest access, the location of water points and fire breaks, and neighbour contact details.

TPFL also owns an array of firefighting equipment which is available for use by FENZ.

Operational staff and contract personal are trained and made available to FENZ to participate in fire control.

4. Harvesting

Harvesting strategy

As a plantation with a non-normalised age-class structure, the harvesting strategy employed across the TPFL forest estate is to harvest the forest or constituent stands as close as possible to the optimum economic age as practical. This is the age at which the growth in volume and improvement in quality is offset by the cost to maintain the forest for another year. The optimum financial rotation length (for radiata pine) is expected to be within 26 to 30 years (this may be less for framing or unpruned stands).

Getting harvest ready

Forward planning is essential when considering harvesting activities. Harvest planning is developed from a long term (up to 30 years) woodflow plan, which is then refined down to a more detailed five year plan, and then translated into annual harvest plans. This process involves balancing a range of factors such as predicted forest growth, customer requirements (grade and volume), harvesting capacity, access and road infrastructure, resource consents, archaeological surveys, third party ownership requirements, clear fall catchment limits and other environmental constraints.

Harvest planning is conducted using a structured process. Elements involving environmental, cultural, community, infrastructural, and safety issues that must be addressed as well as legislative, direct operational and economic considerations, prior to the issuing of final harvest prescriptions are included in the harvest plan.

TPFL will use three basic criteria to ensure the right harvesting methods are employed:

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

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

5. Environmental Risk Management

Assessment of environmental risks

Several areas of typical forest management have been identified as posing a possible environmental risk within the TPFL forests. The Environmental Assessment Matrix below summarises the identified risks for the TPFL forests. The level of risk has been evaluated in the matrix as high ‘H’, medium ‘M’, low ‘L’, or not applicable ‘NA’.

Prior to operations such as clear-felling, land preparation and production thinning, an assessment is undertaken to quantify the risk involved in carrying out the particular operation, and steps are implemented to manage the risks

Forestry Operational Activities	ENVIRONMENTAL VALUES/ISSUES											
	Erosion & Sediment Control	Water Quality	Soil Conservation & Quality	Air Quality	Aquatic Life	Native Wildlife	Native Vegetation	Historical & Cultural Values	Landscape & Visual Values	Neighbours & other forest users	Public Utilities	Recreation Values
Harvesting	H	H	M	L	L	L	M	L	H	H	L	H
Earthworks	H	H	M	NA	M	L	L	L	L	L	L	L
Slash Management	M	M	L	NA	L	L	L	NA	L	L	L	L
Stream Crossings	H	H	L	NA	H	L	L	L	L	NA	L	NA
Mechanical Land Preparation	L	H	L	L	L	L	L	L	L	H	L	L
Burning	L	L	L	H	L	H	L	NA	H	H	L	H
Planting	NA	NA	NA	NA	NA	NA	L	L	L	L	L	L
Tending	NA	NA	NA	NA	NA	NA	NA	NA	NA	L	L	L
Fertiliser Application	NA	H	L	L	H	NA	L	NA	NA	L	L	L
Agrichemical Use	NA	H	L	L	H	L	H	NA	L	H	L	H
Oil & Fuel Management	NA	H	L	NA	H	L	L	NA	L	H	L	H
Waste Management	NA	L	L	NA	L	L	NA	NA	L	L	NA	H
Forest Protection	NA	L	NA	NA	L	L	L	NA	NA	L	NA	L

Wilding spread risk

Some conifers have a higher predisposition for uncontrolled spread than others. On some sites, Douglas-fir can be a problematic species in terms of uncontrolled spread.

Douglas-fir is currently planted in some areas of the estate located in the Eastern Hills. TPFL are not currently re-establishing douglas-fir.

The risk of uncontrolled spread from these forests has been assessed, and it is considered manageable as generally these forests are surrounded by other commercial forests or farmland and are at lower altitudes. While the risk of Douglas-fir spread is considered low, it will be monitored on a regular basis.

6. Reserve areas and Significant Species

Protected ecosystems

Efforts have been made to locate and describe all indigenous ecosystems within the TPFL forest estate. Coarse-level assessments and mapping has been undertaken, the majority of the areas have received independent surveys for their ecological value.

Re mapping of these areas is currently underway and the more ecologically significant areas have been described in greater detail. Some areas require further assessment, a program is under development to schedule regular assessments of these areas and develop management plans where appropriate.

High Conservation Value (HCV) Forests

FSC® forest management standards include several requirements for managing critically important forest areas, known as High Conservation Value Forests (HCVFs). These HCVFs have an especially high ecological or social value, as defined by several specific FSC® criteria.

There are four areas, listed in the table below, totalling 138.0ha, all these areas fall within the ‘special’ protection category these have been identified as meeting HCVF criteria.

Management plans have been developed for these areas which are being implemented. Each area is inspected annually to monitor the condition of the particular values identified as HCVF, to assess the effectiveness of any management actions undertaken and to determine the need for any further active management.

Table 14: High Conservation Value (HCV) reserves in the TPFL estate

Forest	Area	Protective Status	Protective Function	HCV Status	Forest Type	Protection Category
Moutere North - Mildura wetland	5.2	SNA	Wetland Ecosystem	HCV3	Wetland grasses, sedges, toi toi	Special
Mclaren	1.1	Mgmt Plan	Wetland Ecosystem	HCV3	Wetland grasses, sedges, toi toi	Special
Lee Valley - Chrome Creek	93.0	SNA	Terrestrial Ecosystem	HCV3	Ultramafic shrubland	Special
Greenhill – waterfall creek	37.7	SNA /DOC covenant	Terrestrial Ecosystem	HCV3	Podocarp/hardwood/Beech spp.	Special

Measures taken to maintain or enhance HCV reserves.

TPFL perform ongoing weed control in all HCV areas and monitor annually for threats and pressures.

Rare and threatened species

Recorded sightings of rare and threatened species within the TPFL forest estate are entered into TPFL's iNaturalist project database and will contribute to the national plantation database being implemented by the plantation forest industry. This information can be found on <https://www.inaturalist.org/projects/rte-species-in-tasman-pine-forests-estate>.

Data logged in the iNaturalistNZ website and information in the NZFOA database on threatened species will be used to assist in identifying where other threatened species, management requirements and or specialist advice might be needed prior to land disturbing activities. <http://rarespecies.nzfoa.org.nz/>

Western weka frequent most of the TPFL forests along with Kea in the higher altitude sites and an increasing number of the native Falcon, especially in areas of recent harvesting.

On the foreshore in the Marlborough Sounds that border some TPFL forests, Oyster catchers are common.

Lizards in particular are a group of species where specific advice may be needed in those forests in the more open and warm rocky habitats in and around some forest areas. The rocky gullies in the Aniseed, Wairoa and at the plantation interface with the more unique seral vegetation association at Elaine Bay are likely candidates.

Cultural, historic and archaeological sites

Under the Historic Places Act 1993 it is the landowner's responsibility to identify any historic sites on their land prior to undertaking any work which may disturb or destroy such sites. Records of archaeological and historical places are maintained in the NZ Archaeological Association (NZAA) Site Recording Scheme <http://www.archsite.org.nz/> .

If a site is found or suspected on any block, the protocols specified in TPFL's EMS, and any others specifically developed in conjunction with HPT and Iwi or other stakeholders, must be observed. Where such circumstances require, an 'Authority to Modify or Destroy' will be sought from HPT. Such authorities are similar in function to resource consent and, if granted, normally come with conditions that must be met. The process to apply for authorities is documented in TPFL's EMS.

Note also that authorities to modify an archaeological site may sometimes be required from the appropriate City or District Council and sites of cultural significance are often included in schedules of places and sites of significance in District Plans. Update checks for any sites will be required before any harvesting or related earthworks commences.

7. Socio-economic Profile and Stakeholders

Current social profile

The Nelson, Tasman and Marlborough Districts are among the least populated in New Zealand (from Statistics NZ 2018 Census). The Census shows that the regions have a combined population of 151,000 people. This represents 3% of NZ's total population and less than 1% of NZ's Māori population. The combined land area of the Districts is 22,640 km², which is 8% of the total land area of New Zealand.

The districts small population and location ensure high levels of employment in both the agriculture and forestry sectors and their supporting industries (distribution and manufacturing).

The Nelson, Tasman and Marlborough districts, in which the TPFL estate falls, are among the least populated in New Zealand (from Statistics NZ 2018 Census):

- 151,000 people
- 12th, 13th and 15th largest populations for Tasman, Nelson and Marlborough regions respectively out of the 16 regions in NZ.
- 3 percent of NZ's total population and less than 1.0% of NZ's Māori population

TPFL employ 17 permanent staff, and contractors who work for TPFL employ over 100 workers. Some of the contractors also work for other forestry companies.

Stakeholders

TPFL work with local councils, Heritage NZ, Iwi, DOC, local hunting and mountain bike clubs and other parties who have an interest in the forests we manage. We actively liaise with neighbours to inform them of operational activities within the forest adjacent to boundaries.

TPFL are also involved with community groups and local schools who have an interest in forest activities.

8. Forest Products and Other Special Values

Introduction

Forest plantations can provide non-timber forest products and special values that enhance the economic wellbeing of the owner or legitimate forest users. Non-timber products are an important means of maximising the production capacity of the forest whilst maintaining environmental and social values. The forest management plan provides procedures for developing and managing these resources.

Environmental and Social cost-benefit analysis

Forests can deliver numerous social and environmental products, both positive and negative to varying degrees. These non-timber products can be difficult to quantify, unlike financial costs and benefits.

The table below rates the relative positivity and negativity of the more common social and environmental products produced by TPFL forests relative to the most likely alternative primary production system, pastoral dry stock farming.

Table 16: Environmental and social cost-benefit analysis

Environmental or social product	Increasingly negative				Neutral			Increasingly positive			
	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
Soil stabilisation							HP			✓	
Erosion/soil loss					HP						MR
Water quality				HP							MR
Riparian shading					HP					MR	
Water quantity					MR	HP					
Carbon sequestration											✓
Native wildlife habitat										✓	
Threatened fauna									✓		
Native fish										✓	
Air quality					HP		MR				
Native reserve protection										✓	
Landscape/visual			HP					MR			
Recreation							HP				MR
Commercial forest use										✓	
Firewood						MR					HP
Local employment				MR							HP

NB: where the ratings differ throughout a rotation, 'MR' is used to indicate the mid rotation (growing) stage of the forest, and 'HP' refers to during or post-harvest.

Recreational usage

All the forests have formed and unformed legal roads, adjacent to or in some cases passing within sections of some forests. The location of these can be viewed on the Walking Access Commission's mapping website at www.wams.org.nz. Public walking access use of these roads and access

easements is legally permitted but these may be closed from time to time by the local territorial authority or TPFL for matters of operational safety.

The WAC promotes the ‘NZ Outdoor Access Code’, which outlines the rights and responsibilities of adjacent landowners, and those wishing to utilise legal roads. The Code can be found on: <https://www.walkingaccess.govt.nz/knowledge-base/the-outdoor-access-code/>

A section in the Code specifically acknowledges the importance of obtaining an access permit to enter a forest to ensure that forestry companies have user’s contact details, and can provide information about fire risk, forestry operations and other hazards.

9. Property Management and Protection

Statutory pest obligations

Pest management within the TPFL forest estate is subject to statutory obligations under the Regional Pest Management Strategy (RPMS) administered by the Nelson City, Marlborough and Tasman District Councils.

The RPMS applies to both pest plants and animals and categorises them in terms of management objectives. The categories are summarised in the table below.

Across all categories, the land occupier (for private land) is considered the exacerbator and therefore is liable for the control measures required.

Table 18: RPMS Statutory pest regulations

Pest Category	Pest Management Goal	Strategy Rule*
Total Control	Eradication	Destroy all adult and juvenile forms
Progressive Control	Reduce density and distribution	Destroy all adult and juvenile forms/report sightings of animal pests
Containment	Prevent spread to new areas or neighbouring properties	Destroy all adult and juvenile forms*, council will promote and encourage control, avoid propagating or distributing pest
Boundary Control	Prevent spread to land that is clear, or being cleared of, the pest	Destroy all adult and juvenile forms within 5m/10m/20m/50m* of a boundary, avoid propagating or distributing pest
Regional Surveillance	Banned from sale/propagation/distribution	Avoid propagating or distributing pest
* Specific zones apply for some pests. Full details of classifications and obligations are listed in the RPMS. The full list of plant and animal pest species are contained in each RPMS.		

Pest control Weeds:

The most common weed pests in the TPF estate are:

- Gorse
- Broom
- Buddleia
- Pampas

The EMS provides guidance on application and strategies for pest control and chemical.

10. Monitoring

Introduction

TPF carries out systematic monitoring of its operational activities to assess their impacts on the environment, communities, and to ensure worker safety. This ensures the development of strategies to make sure all our activities are carried out in a sustainable manner.

Operational monitoring

Operational audits confirm that work has been carried out in accordance with contracts, prescriptions, policies, procedures and work standards. In addition, compliance is checked against the TPF Environmental Management System (EMS) as well as resource consents and the National Environmental Standards for Commercial Forestry (NES-CF).

Regional Councils also conduct regular resource consent compliance monitoring of operations undertaken under resource consents or permitted activity rules.

Biodiversity and Forest Health monitoring

TPF carries out a range of surveys to monitor the health of its forests as well as the impacts of forestry operations on wildlife, native forests, and stream health. These surveys include:

Item monitored	Results-2022
<p>Forest Health: Annual Forest Health inspections are carried out to identify new forest pests or diseases. These are undertaken as part of the NZFOA surveillance program</p>	<p>2022 Results: Boron deficiencies and dothistroma were observed in some areas. Goat and deer browsing was noted in areas backing on to the DOC estate, although the level of damage was less than previous years due to TPFL’s pest control program. A couple of invasive pest weed species (wooly nightshade and Mexican pine) were marked using gps, TPFL will eliminate theses before they become an issue.</p> <p>2021 Results: A new eucalyptus tortoise beetle was identified. This was found to be widespread outside the forest and not considered to be a significant threat.</p>

<p>Forest Nutrition: Foliage sampling measured N,P, Mg and B nutrient levels Corrective action is carried out if required. Soil sampling has also been carried out at selected sites.</p>	<p>2022 Results: Contractors took foliage samples from 736 hectares in the TPFL estate during 2022. The results will form the basis of 2023’s boron application program along with the forest health survey. No boron was applied in 2022.</p> <p>2021 Results: Foliage sampling found some parts of the estate were marginal for the Boron trace element. TPFL have an annual boron fertiliser program to rectify this deficiency where identified. No other fertiliser applications were required.</p>
<p>Plant and animal Pests: Animal and pest plant surveys are carried out as required to establish optimum control measures. Animal pest kill returns are provided by hunters.</p>	<p>2022 Results: Further pest plant surveys were conducted which consider the threats and pressures that native areas face and their ecological significance. Areas surveyed subsequently have control methods applied based on the results. Kill returns for pest animals show that 401 pigs, 57 deer, 901 goats, 99 hares/rabbits, 408 possums and 9 cats were destroyed in the TPFL estate in 2022.</p> <p>2021 Results: Weed surveys were carried out in all HCV areas. High infestations of wilding conifers and pest weeds were controlled. Animal returns provided by hunters for 2021 resulted in 891 Goat, 2604 Possum and 477 Pig kills being reported.</p>
<p>Water Quality: TPF have a Hach 2100Q turbidity monitor and SHMAK water quality monitoring kit developed by NIWA which can be used for sampling water quality as required.</p>	<p>2022 Results: Annual monitoring sites were remeasured and turbidity spot checks were undertaken throughout the estate. TPFL had a continuous turbidity monitoring device install in Sharlands creek, however, it was washed away in the August rain event and unable to be recovered. TPFL have also been sampling water for herbicide runoff before, during and after aerial agrochemical applications.</p> <p>2021 Results: Established 24 annual water monitoring sites throughout the estate. Also regularly conduct turbidity spot checks and we are starting to build a database</p>

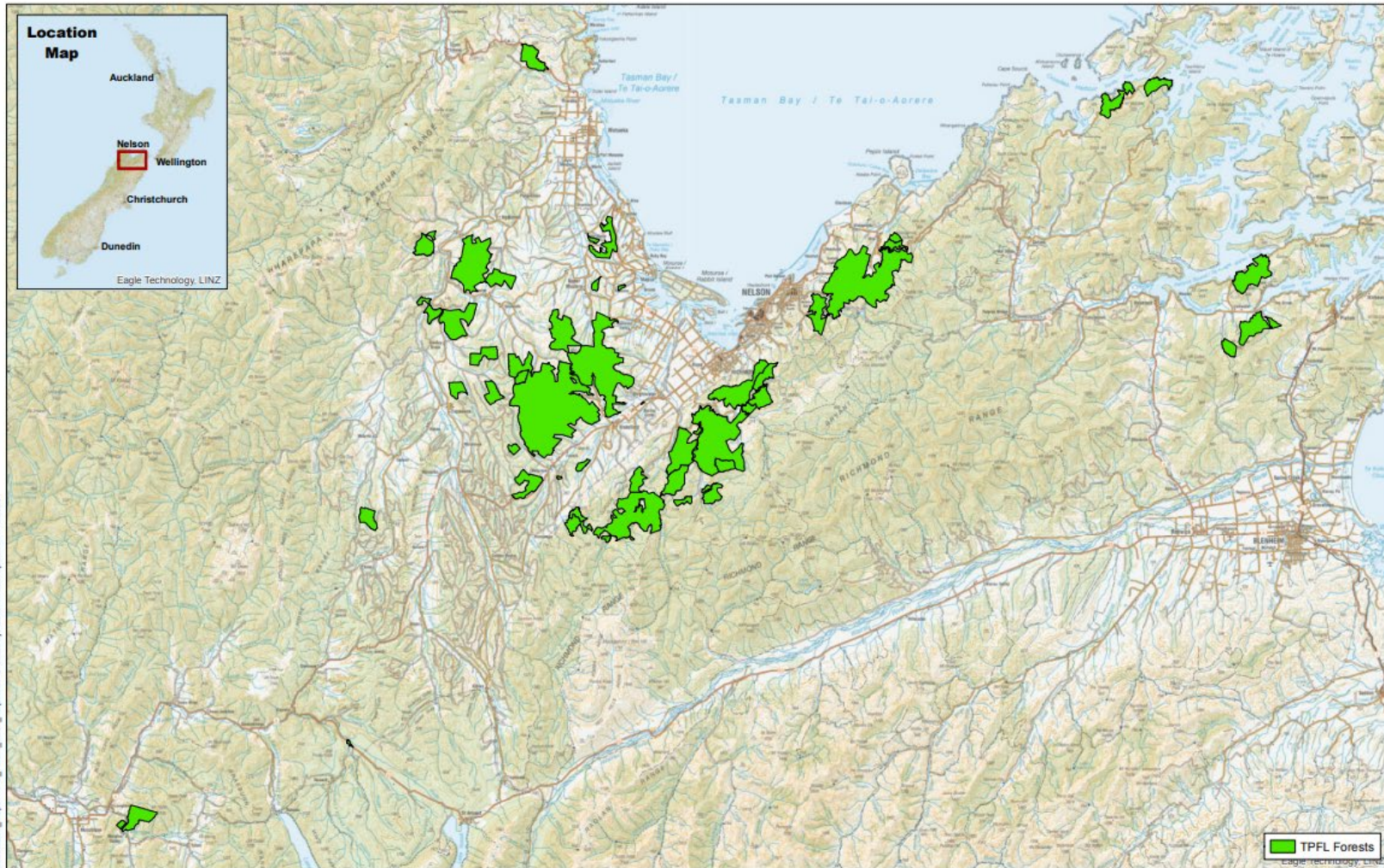
	<p>using eDNA technology for macroinvertebrate.</p>
<p>Fish Monitoring: TPFL and Councils have carried out monitoring of native fisheries in selected streams across the estate using electric fishing, spotlighting and eDNA.</p> <p>Fish passage surveying and remedial works are continually being undertaken by local freshwater ecologists.</p>	<p>2022 Results: Ollycology surveyed and performed remedial works on all water crossings in Moutere North Forest.</p> <p>2021 Results: We employed professional freshwater ecologists Ollycology to survey fish passage on all manmade structures in Hira forest, where necessary remedial works were carried out to allow for passage of fish through the structure.</p> <p>2019/20 Results: Nelson City Council undertook a Koaro survey in Hira forest streams, none were found during the survey.</p>
<p>High Conservation Value (HCV) areas: Annual monitoring of HCVF sites to monitor the health of identified values is carried out at each of our 4 identified HCV sites.</p>	<p>2022 Results Following up on the review started in 2021, a local ecologist was employed to review the native areas in the TPFL estate and HCV status was removed from Wairoa North, Wairoa South and Mahau. Conversely, Waterfall Creek and Mildura wetland were given HCV status, these changes better reflect the highest value areas in TPFL and ensure adequate protection is provided. Contractors undertook 566 hours of control and planting work in HCV areas in 2022 (excluding ecological surveys).</p> <p>2021 Results Annual threat and pressure surveys were undertaken at all HCV's throughout 2021 except Mahau due to the road being closed from storm damage. Scores ranged from 7.5 in Wairoa to 14.2 in Chrome Creek. The annual survey scores and professional ecological advice prompted a review of HCV sites.</p> <p>Weed control work was done in the HCV's in accordance with their management and pest control plans. Hunting was encouraged in all HCV's throughout the year.</p> <p>2020 Results All reserves were audited in 2020 and assigned a score reflecting their ecological condition.</p>

	<p>The lower the score the better the condition of the HCV. Scores ranged from 8 for Wairoa HCV's to 13 for McLaren wetland which contains a number of invasive pest plants. Weed pest removal and control work was undertaken in 4 of the HCV's during 2020.</p>
<p>Rare Threatened and Endangered Species Monitoring: TPFL encourages staff and contractors to report sightings of rare, threatened and endangered species, such as NZ falcon, weka and kea.</p>	<p>2022 Results: 12 Karearea, 6 kea, 1 south island robin and 3 western weka observations were recorded in 2022.</p> <p>2021 Results: 77 RTES sightings were reported in the TPFL estate. This comprised of Karearea (28), Kea (41), Skink (1), Western Weka (7).</p> <p>2019/20 Results 12 RTES sightings were reported in the TPFL estate of Native falcons (7), Whio (3) and Kea (2). A tree gecko survey was undertaken in Hira forest, none were found in the area surveyed.</p>

11. Complaints and Disputes Resolution Process

Tasman Pine take complaints and disputes very seriously. Members of the public are encouraged to contact TPFL directly with any issues via email to info@tasmanpine.co.nz, by phone to 03-541-700, or through the TPF website www.tasmanpine.co.nz. A copy of TPFL's Complaints and disputes resolution process is available on request free of charge.

Where the dispute is of a substantial magnitude or duration, or involves a significant number of interests, operations may need to cease until resolved.

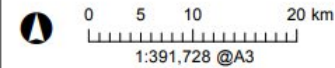


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**Tasman Pine Forests
Managed Estates**

Date: 04 April 2023