SOUTHERN FORESTS LTD
Forest Managers | Logging Managers | Consultants
info@southernforests.co.nz (03) 443 7764

Ingka South Forest Estate Management Plan 2024 - (Public Summary)

Prepared by Southern Forests Limited for Ingka Investment Management NZ Limited.

The estate is managed by Southern Forests in accordance with FSC® principles and standards for responsible forest management.

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Distribution List			
Name	**Company**	**Role**	**Contact e-mail**
Paul Molly	Southern Forests Ltd	Managing Director	paul@southernforests.co.nz
Josh Cairns	Southern Forests Ltd	Forest Manager	josh@southernforests.co.nz
Tony Sheperd	Southern Forests	GIS Manager	tony@southernforests.co.nz
Kelvin Meredith	Ingka Investments NZ Ltd	Forestlands Manager NZ	kelvin.meredith@ingka.com
Dylan Foster	Ingka Investments NZ Ltd	Regional Manager NZ	dylan.foster@ingka.com

Company Details

Southern Forests Ltd

Wanaka Office
5 Frederick St
WANAKA 9343

Gore Office
5A Fairfield St
GORE 9700

Ph 027 559 9033

Information: info@southernforests.co.nz

Website: www.southernforests.co.nz

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1.0 INTRODUCTION

1.1 Southern Forests Ltd – Forest Manager

Southern Forests Ltd (SFL) is a privately owned company based in Southland, New Zealand and has been operating throughout the South Island since 2002, with offices based in Gore and Wanaka.

With extensive forestry related experience, the company has successfully been providing professional forestry services and expertise in:

- Forest Management
- Forest Harvest & Planning
- General Consulting Services
- Forest Valuations
- GIS Mapping
- Carbon Forestry
- Carbon Trading
- Drone Imagery and Survey

SFL has been engaged as Forest Manager by Ingka Investment Management NZ Limited to manage their Southern Forest Estate, "Ingka South" working under Forestry Certification Standards demonstrating responsible forest management.

This Forest Management Plan is intended to provide Ingka NZ stakeholders with an overview of how we manage the Southern Forest Estate and operations considering environmental, economic, social, and cultural factors.

1.2 Our commitment to Forestry Certification

SFL commit to adhere to the Certification Scheme Principles and Criteria in the management unit and to related Certification Scheme Policies and Standards.

SFL considers the Forest Certification system an essential tool for promoting responsible forest management for the forests managed by us.

SFL also considers that, by complying with the Forest Certification Principles and Criteria, forests are properly managed from an ecological point of view, generate social benefits and are economically viable.

We want that through the procedures and measures taken in order to implement the requirements of the Forest Certification Scheme, we ensure the continuity of the use of wood resources, accessory products and environmental services not only for the present generations but also for those that will follow.

We have become aware of, and undertake to adhere to, the Forest Certification Principles and Criteria in the Management Unit, and to the related Forest Certification Policies and Standards. We undertake to respect and make every effort to fulfil the requirements of the Forest Certification Scheme for forest management to contribute to the responsible management of forests.

We agree to provide the certification body, subject to confidentiality, with the requested documents and to ensure its access to the managed forests that are included in the scope of the certificate.

Based on the above, we undertake to:

- Respect the national and international legislation (CITES, ILO, ITTO, CBD, etc.) to which New Zealand is a signatory party and to fulfil the requirements of the 10 Principles and Criteria of the Forest Certification Standard for forest management.
- Respect property rights and do not harm the integrity of the property of the members of the Forest Certification certified Management Unit(s)
- Implement legal measures to prevent and combat illegal cutting, poaching, violations of the forest fund and other illegal or unauthorized activities.
- Respect the national anti-corruption legislation and the acts assimilated to it, respectively the commitments assumed by the anti-corruption policy.
- Develop procedures for the expression of complaints and disputes and to ensure mechanisms to resolve them and implicitly the damages caused.
- Respect the general principle of equal opportunities and treatment with the aim of eliminating any discrimination based on race, sex, religion, political opinions, national or social origin, marital status, parental status or sexual orientation.
- Support the socio-economic development objectives of local communities, including by facilitating access to wood for local operators, encouraging the purchase of local goods and services, providing firewood for members of local communities.
- Offer employment and training opportunities to local communities in the area.
- Ensure the fulfilment of all the requirements related to Labour Protection and to monitor compliance with the requirements related to Labour Protection also by the exploitation companies or contractors.
- Ensure that forest management operations will aim at the efficient use of the multiple functions of the forest to ensure economic viability and a wide range of environmental and social advantages.
- Identify and take measures to protect rare, threatened or endangered species.
- Designate/maintain a network of conservation areas of at least 10% of the certified surface, as representative areas of natural ecosystems that will have biodiversity conservation as a priority objective.
- Ensure the preservation within the necessary ecological limits of the dead wood on the ground and on the feet/trees for biodiversity.
- Respect the technical norms of exploitation and to ensure the protection of the soil, watercourses and neighbouring ecosystems.
- Avoid the use of chemical substances as much as possible and to exclude from total use substances prohibited by a Forest Certification scheme. In case of use, this will be done only in extreme cases and in compliance with the rules in force.
- Monitor the forests so that we have permanent and accurate data about the current state of the estate, the forest production, the chain of custody, the management of activities and their social and environmental impact.

- Properly identify, through a participatory, transparent process, the High Conservation Values (HCC), and to implement appropriate management strategies to ensure their maintenance and/or improvement in the Management Unit by applying the precautionary principle.

1.3 Ingka Investments Management NZ Ltd – Reasons for Certification

Ingka Investments Forest Assets NZ Limited and Ingka Investments Management NZ Limited are part of the Ingka Group of companies, whose ultimate parent is Stichting Ingka Foundation, which is registered in the Netherlands and is part of the Ingka Group (Ingka Holding B.V and its controlled entities) which is the largest franchisee of IKEA stores internationally operating in over 30 countries.

Ingka Investments is the investment arm of Ingka Group. To secure its long-term growth, Ingka makes responsible investments in people and businesses that make a positive difference to people and the planet, including in forestry. Ingka Group currently owns around 280,000 hectares of responsibly managed forests in the United States, Romania, Estonia, Latvia, Lithuania and New Zealand. Its firm commitment is to be a responsible forest manager, balancing the environmental, economic, and social aspects. Its forest management view is for long term, and it works every day to preserve and increase the forest quality for generations to come. Ingka Investments follows a buy-and-hold strategy for its forestry investments.

Ingka Investment Management NZ Limited commit to manage all their forests in a sustainable way, with proper care for people and environment while also meeting our business objectives. We take an integrated, long-term approach, balancing interests of all stakeholders and securing the forests and their biodiversity for the future.

As a responsible forest owner, we employ methods that will allow us to preserve and even increase the quality of the forestland over time.

Ingka Investment Management NZ Limited are investing in New Zealand with acquisitions to create a forest resource for a long-term future and wood supply.

Ingka has a very strong focus in its approach to lead in environmental, economic and social outcomes. Ingka is undertaking Forestry Certification stewardship for all management areas as a certification to ensure that this focus is sustained for a long time. One of the key visions of Ingka is creating a better everyday life for the many people. This gives us both a unique opportunity and an important responsibility to make a positive contribution to people and the planet through our investments.

Ingka Investment Management NZ Limited endeavour to undertake all activities to meet the best outcomes to meet this vision.

Ingka are committed to Forestry Certification across our entire portfolio and all the Forest Managers must be working towards this goal.

2.0 OVERVIEW

2.1 Estate Description

Southern Forests Limited (SFL) manages approximately 8,000 hectares of land on behalf of Ingka which is spread across five forests in the Otago/Southand regions:

- Wisp Hill Forest
- Koneburn Forest
- Beaumont Forest
- Whyte Road Forest
- Lillburn Forest

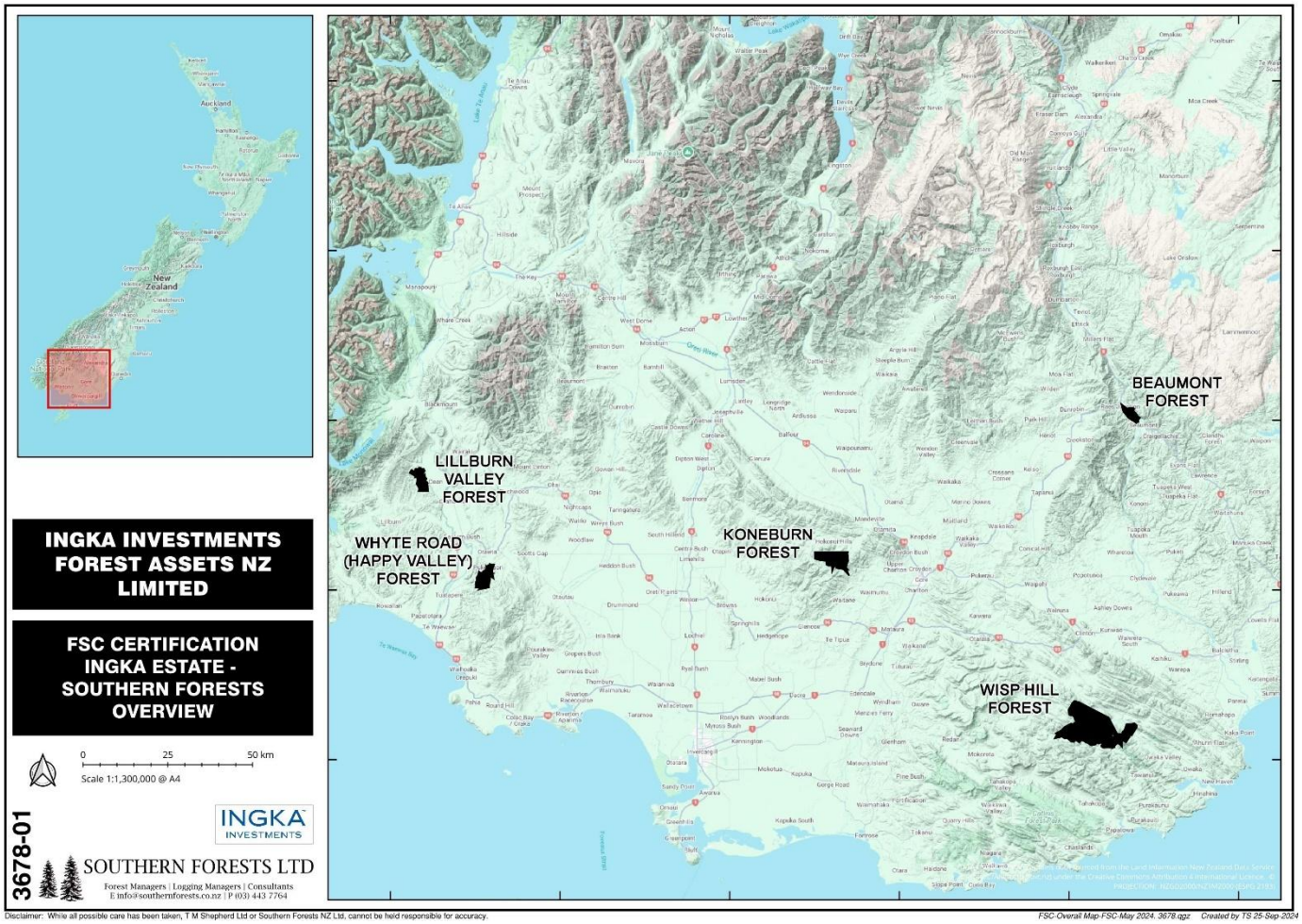
FMU name	FMU Location	FMU Area – (ha)	Forest Type	Annual Harvest
Ingka South	Wisp Hill, Otago	3032 2467	Plantation Conservation	0
Ingka South	**K**oneburn, Southland	951 30	Plantation Conservation	**0**
Ingka South	Beaumont, Otago	195 64	Plantation Conservation	**0**
Ingka South	Whyte Road, Southland	518 79	Plantation Conservation	**0**
Ingka South	Lillburn, Southland	270 137	Plantation Conservation	**0**
Grand total		**4966** **2777**	**Plantation** **Conservation**	**0**

1: Ingka South Forests which SFL manage showing plantation and conservation areas

All five forests are relatively young with afforestation for **Commercial Forestry** commencing in 2021 and establishment will be completed in 2025.

All five forests come under one Forest Management Unit – this being "Ingka South".

2.2 Location of the Forests



Map 1: Ingka Estate Southern Forests

2.3 Management Objectives

SFL primary objective is to return value to the Forest Owner (Ingka) of the forests it manages through the establishment, management, and future harvesting of productive and high-quality forests in a safe and sustainable manner.

SFL seeks to achieve its objective through sound business strategies, proactive management of natural resources and building strong relationships with all stakeholders.

SFL has a strong commitment to managing the land the trees are growing on for Ingka and the surrounding communities to ensure the long-term sustainability of the forests under management.

SFL actively manages its responsibilities in the areas of biodiversity, soil and waterways protection, reserve/riparian management, recreation and public access and protection of historically significant sites within the forest estate.

The following is a summary of the key objectives of SFL.

2.3.1 Forest Management Objectives

- Investment in establishment of a high-quality crop with best genetics available
- Investment in infrastructure
- Investment in developing currently unproductive weed infested land
- Investment in silviculture (tending) to optimise stumpage at harvest
- Investment in forest protection and maintenance
- Adoption of FSC principles and standards and certification
- Management of non-plantation forest areas for long term sustainability
- Actively monitoring and planning to minimise fire risk
- Continue to work with the Hokonui Runanga on a Pest Monitoring Programme
- Work with interested groups on recreational/fund raising activities on forest

2.3.2 Health and Safety Objectives

- Maintain a safe and healthy environment free from injuries
- Develop a "Safety First" workplace culture with all staff and contractors
- Promote collective and individual responsibility for H&S
- Ensure that all staff and contractors are trained and competent to undertake their jobs safely
- To be compliant with the various Acts which fall under Workplace Health and safety. For example;
- H&S at Work Act 2015
- Worksafe NZ Act 2013
- NZ Forest Code of Practice (FCoP)
- Capture and learn from incidents through incident reporting, investigation and sharing of learnings

2.3.3 Stewardship Objectives

- Manage the estate in compliance with relevant legislation, including the NES – CF which falls under the Resource Management Act 1991
- Manage the estate in accordance with the NZ Forest Accord (1991)
- Manage the estate in accordance with the with the requirements of voluntary certification systems to which SFL is currently striving for, this being FSC (Forest Stewardship Council)
- Identify and consider environmental and social values when planning and undertaking operations to minimise negative impacts on the environment and community
- Identify and protect areas of significant ecological and scientific value within our managed forests and put in place processes to protect and enhance identified values.
- Minimise impact of operations on archaeological and culture sites
- Manage the estate sustainably and minimise adverse effects of forest operations on soil and water values

- Minimise impact of operations on amenity values (visual, noise and air effects) and neighbouring properties
- Manage and use herbicides responsibly and seek to minimise the use of herbicides as far as practical. Have ESRA (Environmental Social and Risk Assessments) for all herbicides used
- Capture and learn from environmental incidents through incident reporting, investigation and sharing of learnings
- Ensure staff and contractors receive appropriate training to comply with the law and the requirements of SFL Environmental Management System (EMS)
- Monitor environment outcomes and research new ways to minimise impacts of forestry operations on the environment, and maximise environment benefits of forests
- Recognise the recreational value of the forest estate to local communities and the public and proactively manage public access taking into account the H&S of people and environmental impacts
- Identify areas within the estate that meet the definition of High Conservation Value (HCV), Significant Natural Areas (SNA's) and Significant Biodiversity Values and manage these in accordance with relevant regulatory and certification requirements.

Further details can be found in the "*Policies, Objectives and Targets for the Ingka South Period 2024 to 2027"*

3.0 OVERVIEW OF FOREST OPERATIONS

3.1 Silviculture

3.1.1 Strategy/Introduction

Forest management seeks to ensure the productive capacity of the forests are not compromised. The forests will be managed to ensure commercial viability and contribute to a sustainable resource supply in the Otago/Southland region.

For that reason, the focus is on establishing forests of predominantly P. radiata with planting of hybrid P. radiata x P. attenuata on exposed high-altitude sites.

Silviculture includes all practices related to the establishment, growth, composition, health and quality of a forest to meet specific objects.

Typical establishment and silviculture operations within the estate include:

- Land preparation
- Planting
- Weed Control
- Pest control
- Fire Protection
- Pruning
- Thinning

In addition, SFL follows a maintenance plan which includes road, track, fence, and water way maintenance.

All operations must follow the standards set within SFL Environmental Management Systems (EMS).

3.1.2 Establishment

Prior to any forest establishment, a review of the area(s) will be conducted to identify whether there are any risks to rare, threatened, or endangered species of flora or fauna. At the same time, consideration will be made of riparian buffer zones, waterway setbacks, wetlands, land contours and any difficult future harvest areas.

Riparian zones/wetlands will be planted in a mixture of natives (Manuka, Totara, Beech) and Redwoods with generous plantings of Manuka acting as buffer zones for dominant waterways.

No land under native vegetation will be converted into plantations as per the NZ Forest Accord and NES-CF regulations.

Establishment may include:

- Raking of gorse/broom/slash
- Aerial spraying of gorse/broom
- Burning sprayed gorse on steep hill country and margins where gorse had invaded riparian areas
- Preplant spot spraying
- Planting of genetically improved seedlings (OP & CP seedlings). Predominately Pinus radiata at 1,100 stems/hectare and on the high-altitude/exposed sites hybrid P. radiata x P. attenuata.
- Animal pest control
- Fertilising
- Aerial or spot releasing of weed competition.

3.1.2 Pruning

Typically, Ingka's silviculture regime focuses on adding maximum value to the tree crop to create a stand of high-quality yielding trees capable of supplying a range of high-quality timber products including:

- Clearwood (Pruned logs) for appearance grade lumber which is used largely for furniture/door panelling etc.
- High density structural logs used for construction lumber
- Areas which we are unlikely to prune include:
- Steep hill country with heavy hinderance and poor access
- Site- related growth conditions (highly exposed and/or high-altitude
- Tree species.

In these cases, we would target a framing regime which would have no appearance grade lumber, but heavy in construction lumber.

Most of the forests will be designated fit for pruning in 2 – 3 lifts to minimum six metres pruned height.

Pruning will be scheduled to achieve industry standards for pruned logs and that will require many skilled and available contractors.

It is a significant business risk that labour may not be available and that the crop is not pruned on time. Pruning will be scheduled to achieve a target defect core of 17 cm Diameter Over Stubs (DOS). Timing will depend on genetics fertility and diameter/height ratio.

Variable height pruning will be standard policy. The first pruning lift is anticipated in most stands by age five with completion to six metre height by age nine.

SFL will plan for that event and already has a large skilled contract workforce available and in training.

Pruned stands will be thinned to waste at least once and in some cases twice, to achieve a final crop stocking of 350 sph.

Similarly, unpruned stands will be thinned to waste twice, first thinning at approx. age 10 years to 500 sph and second thinning to 400 sph within five years. That applies to P. radiata and to all the hybrids.

There is currently no intention to carry out production (commercial) thinning as that is not viable unless markets change, or new opportunities arise (e.g., Fuelwood).

Foliage sampling will be undertaken to determine nutrient status of the crop and to identify any future fertiliser requirements.

3.1.3 Thinning

Thinning of stands is undertaken, generally between six to nine years of age to provide optimum space for selected crop trees within the stand to grow and 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 with less competition.

Most thinning operations leave the cull stems on the forest floor to decompose where production thinning is impractical and/or uneconomic.

3.1.4 Regimes for Pinus radiata

Pruned

Year	Operation	Stems per ha	Details
0	Establishment	1100	CP and OP improved genetic seedlings
5-6	Prune 0-2.8 metres	400	Minimum green crown must be 3.0m, OR prune to 45% tree height, ~18cm DOS
7-8	Prune 2.8-4.5 metres	375	Prune to maximum 45% tree height
9	Prune 4.5-6.5 metres	350	Prune to maximum 45% tree height
10	Thin to waste*	450-500	Thin all non-pruned stems to waste after final pruning
11	Thin to waste*	325-375	Tidy up thin of overstocked areas, or damaged pruned stems
28-30	Clearfell		

Note: Pruning can be done in two lifts rather three in some cases. On un-sheltered sites, two thinning's are preferred to minimise the risk of windthrow post thinning operation

Framing

Year	Operation	Stems per ha	Details
0	Establishment	1100	CP and OP improved genetic seedlings
8-10	Thin to waste	500-600 (final stocking)	Thin all non-dominant stems to waste when mean crop height 13-14m
25-30	Clearfell		

3.1.5 Regime for Coastal Redwood

Year	Operation	Stems per ha	Details
0	Establishment	850-1000	Plug seedlings ex Rimu Forestland Ltd
7 to 8	First prune	400	Prune leaving green crown of 3-4 metres, <20cm DOS
10 to 11	Second prune	375	Prune leaving green crown of 3-4 metres, <20cm DOS
12	Third prune	350	Prune leaving green crown of 3-4 metres, <20cm DOS
12 to 13	Waste thin	350-400	Waste to 350-400sph, no need for followers, single thin OK
50	Clearfell		

3.1.6 Herbicide Application

Herbicides are utilised for weed control prior to planting and in the first one to two years following planting to reduce competition and prevent crop mortality. Once the crop trees outgrow the weed(s) anywhere between one to three years of age, the trees are free to grow and, in most cases, no further herbicide application is required until the start of the next growing cycle some 25 years later.

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 the NZ Standard NZS 8409:2004 *The Management of Agrichemicals and application Regional and District Plan rules*. The NZ standard ensures that were agrichemicals are handled or used, the practices followed are safe, responsible, and effective, with minimal adverse impact on the environmental health. It also requires that 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, SFL staff are required to identify areas which must be protected from herbicide over spraying such as significant native riparian vegetation, wetlands, watercourse, important indigenous habitat, and neighbours' boundaries. To safely use herbicides in the forest estate, education and training sessions are an essential part of SFL 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 SFL aims to use minimum amount of herbicide required for it to undertake its management activities.

Examples of this includes measures like over sowing and spot spraying in most cases which removes the need for broadcast releasing of trees. In addition, we have Environmental and Social Risk Assessments (ESRA) for all the herbicides we use.

3.1.7 Herbicide Management

Transportation, storage and labelling of these hazardous materials were used in SFL forest operations must all comply with the NZS 8409:2004 Management of Agrichemicals Code of Practice.

A locally based helicopter company will be contracted for all agrichemical applications mainly pre-plant and post-plant spraying. The contractor will ensure that:

- All chemical containers are either re-used, recycled, or disposed of at an appropriate disposal facility, via an Ag-Recovery company.
- All helicopter pilots/principals have the required certification.
- Appropriate navigation systems and GPS monitoring are always operative.
- All staff are trained in spill response and spill kits are always on site.
- The company and staff have appropriate current chemical handling certificates.
- Chemicals are not to be stored on site.

During actual chemical usage, the highest risks are associated with chemical trespass or bulk fuel spillages. These risks are managed by:

- Neighbour consultation over planned spray operations.
- Careful planning and timing of any aerial operations having regard to wind and spray drift.
- Unsprayed buffer strips on neighbour boundaries and riparian or other protected reserves.
- Pre-loading and recording of flight paths and maintenance of flight records.
- Monitoring and recording of weather conditions during the operation, including using smoke bombs and photos/video.
- Moving contractors into the use of double skinned bulk fuel storage tanks as the preferred method of containment for all larger capacity tanks.
- Tracking of all active ingredient usage within the estate.
- Utilising a chemical register– this records all information from the Prescription, the boundary coordinates, how many loads have been deployed, gear calibration, nozzle size, and any risk, such as power lines etc.

No storage or mixing of fuels, oils, chemicals, or similar substances shall be undertaken in areas where a deliberate or inadvertent discharge could enter any waterbody.

SFL, as the forest manager, is obliged and committed to reducing the use of hazardous substances as much as possible. SFL achieves this by being an active member of industry organisations, supporting research into sustainable silviculture, improving environmental practices, and workforce safety.

3.1.8 Fertiliser Application

The forest estate has a relatively narrow range of soil types. Some of these are low in nutrients required for growing trees and therefore fertilisation to correct deficiencies and enhance forest health maybe needed.

Foliar sampling and soil information determine the type and amount of fertiliser required. Typically, SFL conduct foliar sampling in Feb/Mar for SCION to carry out their analysis and recommendations. In most cases Boron is recommended to increase overall tree health and improve resistance against both disease and adverse growing conditions such as drought.

Fertilisation application is carried out in compliance with regional Plan rules and the Code of Practice for Nutrient Management (2007) maintained by the NZ Fertiliser Manufacturers Research Association.

3.1.9 Forest Health

Diseases which can affect the forest trees and adjacent native vegetation are monitored throughout the year. Most diseases can cause little damage and do not require control. The exception is *Dothistroma spp*., a fungus which attacks pine needles and is associated with wet, warm conditions. Fortunately, in Otago/Southland we do not experience the same humid conditions as parts of the North Island therefore an outbreak of Dothistroma is unlikely and there has been no need for control in the estate.

The fungus is controlled using aerially applied copper-based fungicide spray, but only when infection reaches a critical level. Dothistroma infection can also be controlled via silviculture by timely thinning and pruning operations which increase air movement and lowers humidity levels.

Stem malformation, typically developing after pruning, has become a problem in some Pinus radiata plantations in the lower South Island over the last 10 years. The condition is associated with infection by the fungus *Nectria fuckeliana* and is known as “Nectria flute canker”. Infection through the pruned branch stub may result in extensive stain and decay within the stem, although tree crowns generally remain green and healthy.

Because we are still two to three years from pruning the estate, this fungus is not an issue. However, one of the most effective management practices is to avoid pruning in the winter and that fungicidal treatment of small stubs will not reduce overall disease incidence and therefore should not be done.

3.1.10 Pest Management

Animal pests pose a threat to commercial forest plantations, to significant indigenous reserve areas within the forest and to indigenous species living in the forest. Animal pests can have an immediate and long-term detrimental effect on

these areas including neighbouring properties. SFL have adopted several pest control methods using a combination of techniques including:

- Ground shooting by day and night by professional shooter.
- Helicopter shooting and recovery.
- Possum trapping.
- Liaison and co-operation with DOC re pest control in the Catlins Conservation Area/Rainforest Park.
- Liaison with other neighbours re co-ordinated efforts.
- Contribution to regional pest control efforts.
- Encouragement of recreation hunting on the property.

In recognition of the risk considerable resources will be put into annual budgets. That includes maintenance of effective all-weather access to facilitate pest control operations.

SFL policy is to minimize animal numbers by any means apart from using banned substances due to environmental risk or FSC standards. Effective pest control requires a consistent and sustained effort by professionals and suitable contractors will be engaged for that work.

Pest control in the plantation forest area's will be extended to the non-plantation regenerating indigenous areas to reduce the browsing impact on that vegetation. Plots will be established in non-plantation forestry areas to monitor browsing effects and species diversity. SFL recognize that non-plantation forest areas are a desirable habitat for animals and that numbers will be concentrated there in future as the plantation achieves canopy closure and feed within the forest declines in quantity and quality.

There are statutory pest control obligations under the regional pest management plan administered by Otago Regional Council/Environment Southland.

Biodiversity threats are included in that strategy. That applies to both animal pests and plant pests. Proposed methods of control will exceed forest owner obligations within the various categories and will be implemented to ensure ecosystem regeneration and maintenance of species diversity and vigour.

The dominant animal pests which require control in the estate include:

- Red Deer
- Possums
- Pigs
- Hares/rabbits

Deer shred the seedlings branches and needles leaving a bare stem and with more nature trees strip the bark.

Possums tend to attack the growing tips of the trees causing stem malformation and dieback. Possums are also a major pest to neighbours along the forest boundaries as they can carry tuberculosis (Tb) which can transmit to livestock.

Pigs cause massive disturbance to the soil's and literally root the seedlings out of the ground.

Wisp Hill Forest has a large boundary which borders the Beresford Range, one of four distinct ranges in the Catlins and unfortunately this native forest provides a perfect habitat to host above pests which enjoy crossing the boundary into the Wisp Forests plantations.

Pest management is on-going, and the intensity of the management program is influenced on DOC's financial budget towards Pest Management.

Hares and rabbits are also a considerable pest, particularly in the first year of planting as they tend to eat the tops of young trees.

3.1.11 Fire Protection

All five forests lie within several Rural Fire Authority areas and most staff along with our contracting resource are well trained or serve official roles on their local Rural Fire Authority.

FENZ (Fire & Emergency NZ) coordinate the readiness and response of the forest industry to fires within the region. Our contractors own an extensive array of firefighting equipment including several helicopters monsoon bucket ready.

Each forest has a detailed Fire Response Management Plan.

3.2 Harvesting Strategy

The primary investment focus is to produce a high-quality forest, and that goal requires several levels of prior achievement:

- Successful establishment of an even well stocked crop.
- Timely tending to industry standards.
- Crop type definition to maximise potential and prioritise expenditure on tending.
- Inventory to accurately assess quality.
- Protection of the crop.
- Establishment of infrastructure.
- Growth to optimum age for felling.

The forests will comprise a mix of genetics and age classes on topography ranging from flat to easy rolling to steep and dissected. Potential logging systems include mechanized ground based and tethered ground-based equipment. Cable systems will be required for

steep areas where slope or soil type/conditions are unsuitable for ground-based machinery.

The forests will be well roaded, on a grade and alignment suitable for upgrade to logging standard. That is significant in terms of risk management and planning. On some forests including Wisp there are multiple sources of good basecourse rock so upgrade of roading and establishment of skid-sites will be cost effective and at minimal environmental risk. It is also beneficial that ridges are generally easy wide and flat, which provides plenty of room for spur roads and skids, and for slash management.

More vigorous growth will be achieved by best genetics on sheltered, fertile, and weed free sites and they can be expected to be harvested first. Gorse infested steep sites will be managed differently and will be waste thinned but not pruned for practical reasons. It is useful to have some diversity in a forest so that is a good strategy, and it will flow through to clear-fell planning.

Harvesting the first rotation of forestry plantings is anticipated at age 28-29 years.

At maturity, it is expected the forests will produce over 650 tonnes per hectare of logs of various grades, which will be sold both to domestic local sawmills and exported. Ingka may have chain of custody arrangements in place or processing capability/interests by time of harvest.

The manuka and native plantings in riparian margins is expected to mature as a nurse crop and provide for regeneration of native species, which will be protected during first harvest of the pine crop. That will ensure long term environmental benefit in terms of soil and slash stability, water quality and yield, and protection for native fish.

3.3 Financial Plan

Please refer to the Ingka South budget

3.4 Operational Plan for the balance of 2024

Due to the young age of the forests (establishment commenced in 2021) we are still very much in Silviculture mode with no harvesting/roading/engineering planned for at least another 20- 25 years.

3.4.1 Planting - exotic

Approx. 90% of the Ingka South has been planted leaving about 450ha between Beaumont, Whyte and Lillburn to be finished off in 2025

Beaumont Forest potentially still requires one last attempt with a controlled burn on the Southern face above the highway, this will be scheduled in late 2024/early 2025

3.4.2 Planting – Native & Coastal Redwoods

Under Ingka's guidance we continue with an extensive restoration programme with 70,000 Coastal Redwoods and 150,000 natives (Manuka, Totara, Beech) to be planted in 2024. The concentrated areas include, buffering wetlands, riparian and public access areas (predominantly access to Thisbe Hut and track area).

Riparian setbacks of approx. 40-50m have been established along all permanent watercourses and have predominantly been planted in Manuka.

Continuation of planting/blanking in some scale will continue over the next 2-3 years to ensure we achieve our restoration goals.

3.4.3 Release Spraying (Pre/post plant for grasses & other weeds)

Pre and post plant sprays are detailed in the Forest Prescriptions. With approximately 2M trees planted in 2024, release spraying for the current year is a significant programme especially when minimal aerial desiccation has been deployed on new planting sites.

3.4.4 Pest Control

Continuation of ground and aerial operations targeting deer, pigs and possums. Cattle Corner in Wisp Hill Forest is continuing to require regular monitoring.

SFL continue to work with the Runanga (especially Koneburn Forest) on a Pest management programme.

Additionally, Ospri have stopped possum control in the Catlins district due to the area no longer flagged as a TB threat to farmers.

3.4.5 Annual Forest Operations Report

Please refer to the links below which provide individual reports for the forests

- Southern Forests Ltd_Wisp Hill Forest Operations Report_October 20, 2024.pdf
- Southern Forests Ltd_Koneburn Forest Operations Report_October 20, 2024.pdf
- Southern Forests Ltd_Beaumont Forest Operations Report_October 22, 2024.pdf
- Southern Forests Ltd_Whyte Road Forest Operations Report_October 22, 2024.pdf
- Southern Forests Ltd_Lillburn Forest Operations Report_October 22, 2024.pdf

4.0 INVENTORY, MAPPING AND FOREST RECORDS

4.1 Introduction

Forest growth and development is monitored through regular forest inventory. Forest inventories providing stand information are required at different times and for different reasons throughout the life of a rotation. SFL undertakes audits of all inventories to ensure consistency in approach and accuracy.

- Pre-assessment
- Quality Control
- Mid-rotation Inventory
- Pre-harvest Inventory
- Post-harvest Inventory

4.1.1 Pre-assessment

Pre-assessment is the collection of parameters prior to a tending operation to help calculate contract rates for tending, and to take a final check on the timing of the operation.

Sampling intensity tends to be low especially in stands with minimal variability, and higher where stand parameters very greatly. This is predetermined prior to completing operations in the field.

Data collected is then used to assist in calculating labour-day targets and hence contract rates/ha. Furthermore, contract rates are often set by negotiation within our preferred contract crews, reducing the need to re-assess every block.

Pre-assessment is completed on the forests prior to most tending operations commencing.

4.1.2 Quality Control (QC)

QC is carried out during and after a tending operation. The aims of QC are to:

- Collect sufficient data to monitor a contractor's performance relative to prescriptions
- Correct any non-performance
- Collect quantitative data to provide reliable estimates of the crop
- Provide data as input for growth modelling

Sampling intensity varies, but generally one plot per two hectares. Data is summarised by Forest/Compartment/Block or Stand prior to being entered into GeoMaster where it is retained as a permanent record. The records can then be directly accessed for annual reports and valuations and stand growth modelling.

QC plots are completed at the Block/Stand level at the completion of each tending operation.

4.1.3 Mid-rotation Inventory

The principal aim for mid-rotation inventory is to collect stand data for inputs into estate modelling and long-term planning and marketing. The objective is to get accurate stand data summaries which will be used for crop typing, estate modelling and valuation.

This is low intensity inventory, but with full log type cruising. This will enable a summary to stand level and more accurate yield predictions for the estate model. Mid-rotation inventory is scheduled for between 12 and 16 years of age.

4.1.4 Pre-harvest Inventory

The principle aim of pre-harvest inventory is to obtain estimates of recoverable volume by log grade. This information can then be used to develop marketing and harvesting strategies. Inventories will be undertaken when stands reach five years or less from harvesting. Sampling intensity is targeted to achieve 10% confidence limits on Basal Area on a stand-by-stand basis. Smaller stands may be aggregated into crop types to achieve this in mid-rotation inventory.

4.1.5 Post-harvest Reconciliation

After harvest, reconciliation of data of the harvested area is undertaken to help improve records and to ensure harvesting has met the standards and expectations as modelled.

4.2 Mapping

Updating forest maps is required periodically as the forest changes. The work involves:

- Updating topographical detail
- Remapping forest and stand boundaries from aerial photography
- Updating stand and forest attributes such as roads, landings, protected ecosystems and archaeological sites
- Defining legal boundaries

The data is kept and managed in SFL GIS system.

Stands are remapped from new aerial photographs around the age of four, when the trees are visible, to accurately define boundaries. They are also remapped within two years of harvest to assist with harvest planning.

Photo 1: Drone mapping survey. Photogrammetry, utilising overlapping images processed into georeferenced true to scale ortho photo to use in SFL GIS/Mapping system

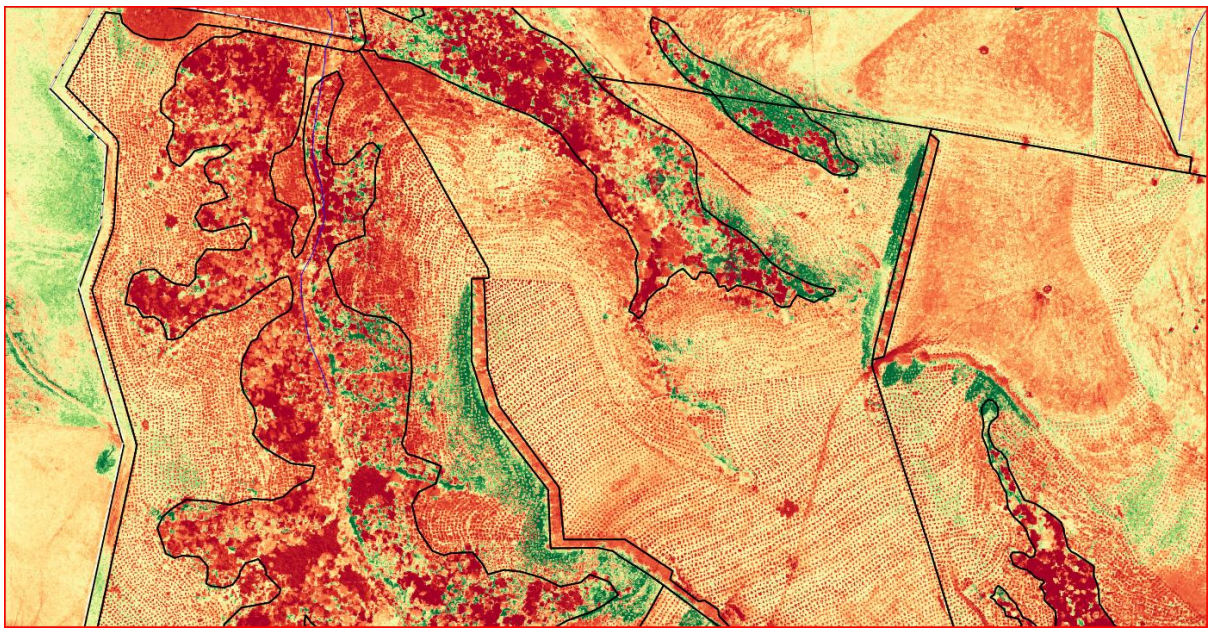


Photo 2: Perfect evidence for ETS registration and boundary verification. Useful for verification of contractors work – in this case spot spraying and planting.

4.3 Forest Records

Forest records are essential to provide an historic perspective on the physical condition of each stand.

Forest records should provide the following information:

- Record of forest operations for each stand including a summary of quality control data
- A forest map showing the location, stand boundaries and net stocked area of each stand
- Crop inventory results
- Yields achieved from each stand at production thinning or clearfell
- Cost incurred for each operation
- Protected ecosystems attributes
- Threatened species records
- Archaeological and Waahi Tapu sites and other potential features
- Chemicals used.

SFL maintains forest records in GeoMaster.

5.0 HEALTH AND SAFETY

5.1 Introduction

At SFL our goal is that everyone goes home safe – every day. We believe in a culture where health and safety of all people is an over-riding priority. Work should only be done if it can be done safely.

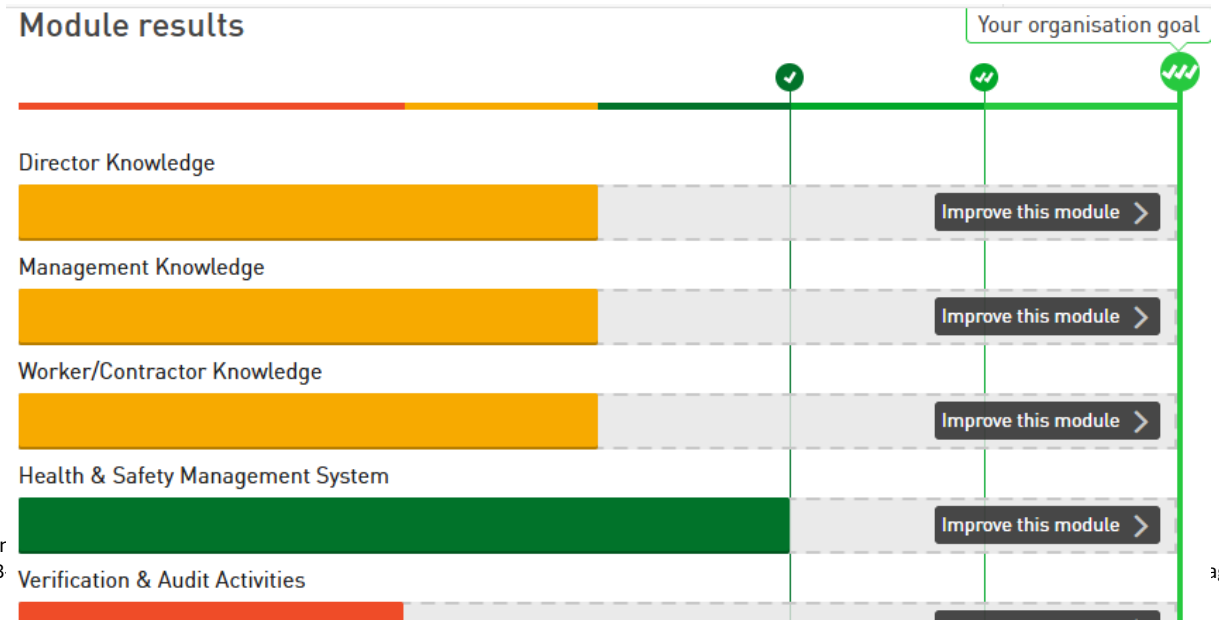
SFL use Safe365 as their H&S Management System which is a digital H&S system which operates both on desktop and phone app.

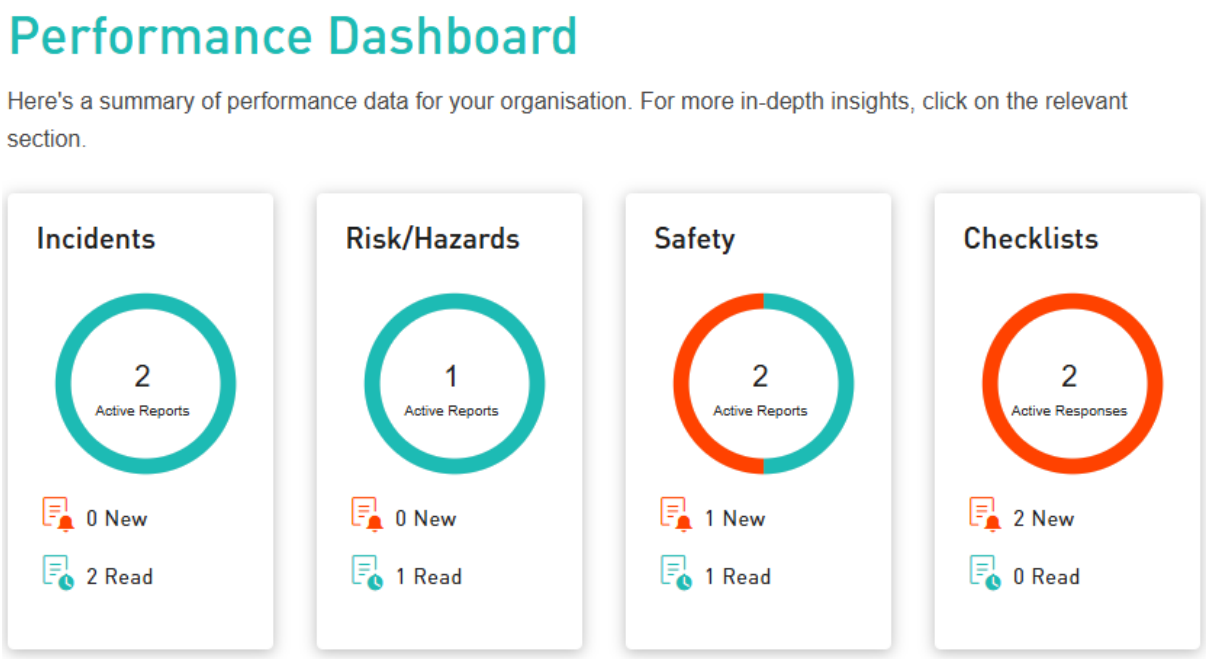
The key features include:

- Incident Reporting
- Critical Risk/Hazard Management
- Safety Observations/Engagement
- Checklists/onsite audits
- Surveys
- In house Assessments which focus on:
    - Director Knowledge
    - Management Knowledge
    - Worker/Contractor Knowledge
    - Health & Safety Management System
    - Verification & Audit Activities
    - Emergency Preparedness
    - H&S Data Collection
    - Management Reporting
    - Worker/Contractor Engagement
    - Culture & Behaviours.

This Assessment feature provides an overall score for your organisation's level of H&S capability and can be improved by improving the score of the ten modules outlined above which is a great way to see continuous improvement by focusing on the modules which require further focus.

Please refer to an example below.





5.2 Drive for Innovation

SFL will continually look for ways we can do things better to enhance the safety of our people through both iterative and step change improvements in work practices and systems, year on year. In doing so our goal is to act strategically and always focus on the things that we believe will make the greatest improvement, recognising this will change over time as solutions for key issues are found and implemented effectively.

SFL will achieve this through:

- Focusing on the highest risks faced in our operations with the goal of elimination of manual tasks with a high potential for serious harm or fatality. An excellent example of this is the introduction of mechanisation where men/woman have been removed from the ground performing a manual task (hand felling) and placed in a machine cab which has all the appropriate protection.
- As goals are achieved, undertaking periodic review of operations to identify new priorities.
- Always challenging the status quo and looking for innovative solutions to problems.

Key strategies to achieve these goals include:

- A strategic drive to use technology and/or changed work practices to address the highest risk tasks and minimise worker exposure to hazards that could cause serious harm or fatality.
- Regular periodic review of safety statistics and outcomes of incident investigations to identify those areas of highest priority.
- Encourage staff/contractor collaboration to tackle and develop solutions for identifies priority issues.

5.3 Health and safety Performance

Health and Safety Performance for SFL	Q1/24	Q2/24	Q3/24
*Number of hours worked	12,036	14,536	15,886
*Lost Time Injury Frequency Rating (LTIFR)	-	7.5	4.71
*Lost Time Injury Severity Rating (LTISR)	-	29	49.20

Total recorded incidents	1	1	0
Number of Notifiable incidents	0	0	0
Number of LTI's	0	1	0
Number of days lost as a result of LTI's	0	35	59
Number of Medical Treatment Injuries	0	0	0
Number of near hits	0	0	0

Number of random D&A tests carried out	0	0	4
Number of pre employment D&A tests	0	0	0

Health and Safety Systems Compliance			
H & S Meeting	1	2	1
Number of actions from meetings	4	17	19
Number of outstanding actions	N/A	10	5

LTIFR is: No. of lost time injuries x 200,000/ by hours worked
LTISR is: No. of days lost due to work related injuries x 200,000/hours worked

5.3.1 Health and safety on site

Employees, sub-contractors, and service providers are made aware of site-specific hazards during their site induction. All visitors are generally escorted onto the forest by an SFL employee, but depending on their experience and what tasks they perform may result in the Forest Manager allowing pre-approved entry into the forest through the RockIT padlock system which allows access to be approved, revoked and monitored remotely. This functionality gives full traceability on who has entered and exited the forest including a notification alert to the Forest Manager or Administrator.

5.3.2 Health Checks

All employees will be provided with the opportunity to complete an annual health check. All contractors should provide the same opportunity for their employees.

5.4 Training

SFL maintain a record of contractors that hold qualifications for high-risk jobs, to ensure that contractors can complete the job they are being hired to do.

Contractor employee's training records can be accessed through the Competenz Training Portal. The trainers have access to SFL employee's records of learning, and a separate record of courses and competencies is kept that covers first aid, dangerous goods, general requirements etc.

6.0 ENVIRONMENTAL STEWARDSHIP

6.1 Introduction

SFL is committed to maintaining a high standard of environmental stewardship when managing our forests and activities and ensuring long term sustainability of our operations.

Environmental effects are a key consideration when planning and managing our operations, second only to ensuring operations are undertaken safely.

The SFL Environmental Policy is attached in Appendix 1. The following sections provide more information about the key aspects of SFL environmental stewardship programmes.

6.2 The Environment and Forestry Activities

Forestry activities encompassing silviculture and harvesting operations can have both beneficial and adverse impacts on the environment depending on the quality of environmental and operational planning and management. Well managed forests can:

- Enhance water quality
- Stabilise and conserve soil
- Provide a buffer against flood flows during storms
- Shade waterways keeping water cool for enhanced fish and macroinvertebrate life

- Provide habitats for rare, threatened, and endangered native species
- Sequester carbon to help combat climate change, and
- Provide recreational, economic, and social benefits to the community

On the other hand, poorly managed forestry activities can have harmful impacts. SFL aims to identify the potential negative impacts that our activities may have and to implement environmental safeguards to prevent or to minimise the negative impact from its operations.

SFL Environmental Management System (EMS) is the primary tool used for ensuring that the company operations meet the highest environmental standards. The EMS details processes to be followed from the initial planning through to completion of operations. It also sets out auditing, monitoring and review procedures which help to ensure continuous improvement of environmental performance.

The EMS sets out clearly the company's obligations, and those of its contractors, to protect identified environmental values in the areas in which we operate. This may include areas such as waterways and wetlands, indigenous reserves, neighbours' boundaries, conservation areas, historic and cultural sites and high value landscapes. Specific procedures, including monitoring the impact of operations, are followed to ensure protection of these areas.

Any forest establishment work (including herbicide application), earthworks and harvesting operations that have the potential to impact of high ecological value are identified as high risk. Work in such areas is carefully planned, mapped, and prescribed. Specific environmental protection requirements are provided for operators to follow. Operators undergo training and receive specific in-situ advice to ensure they understand the importance of these issues.

Contractors must follow the prescription plan and monitor their operations on a day-to day basis to ensure that such sites are being safeguarded. Ensuring that reserve and sensitive areas (e.g. Adjacent native bush, wetlands, and streams) are not damaged is a focus.

The EMS is designed to ensure that the company follows all the regulatory requirements and meets agreed industry standards.

6.3 Planning of Operations

At the beginning of the planning phase of harvesting, establishment, and earthworks operations, it is determined whether a resource consent under the NES-CF or an Authority under the Historic Places ACT 1993 is required. SFL undertakes consultation with all those parties who may be affected by the operation. Where a consent is required,

an application, which includes an assessment of the actual and potential effects of the proposed activity, is submitted to the local authority. The application also provides details of the measures to be used to prevent or minimise adverse effects.

All operations on the SFL managed estates must have a Work Prescription in place before work commences (for harvesting this is called a harvest plan). Through the planning phase the planner inspects the site and gathers information on all characteristics and constraints to confirm or supplement recorded information held in GIS. Considering environment, safety, economic and practicality considerations the planner develops the optimum methodology for carrying out that operation. This plan is then documented in the work prescription and includes a map of the site and instructions in completing the job. Each operation is assigned an environmental risk rating (high, medium, low) based on the characteristics of the site. This alerts the contractor of the relative risk level of the job and is also used by SFL to prioritise the frequency of operational and post audits.

Prior to commencing operations, hazard identification is undertaken on site with the contractor to ensure all safety and environmental hazards are clearly identified with controls in place.

Contractors are required to comply with the Work Prescription as well as with any applicable resource consent conditions. Compliance is monitored by SFL staff during and on completion of operations.

6.4 Forest Conversion

SFL will not convert any indigenous forest area of five hectares or more to plantation forest or non-forest land use, which has an actual or emerging predominance of naturally occurring indigenous tree species of any height. SFL will comply with any regulatory requirements regarding afforestation.

6.5 Forest Reversion

SFL will actively manage non-production forest areas which have an actual or emerging predominance of naturally occurring indigenous tree species of any height.

SFL will enhance reversion where appropriate by native planting, weed control and pest control within reversion areas.

6.6 Native Planting in Riparian Margins and Wetlands

Ingka and SFL are committed to a high level of sustainable land and forest management of all forests.

It is intended that significant areas in the margins of waterways and wetlands will be planted in manuka, totara and mountain beech for long term environmental benefit and commercial benefit.

That will act as a nurse crop for permanent riparian indigenous vegetation which will maintain and enhance water quality and native fish habitats.

Ingka are currently working with environmental solutions provider eLandNZ and local Iwi Hokonui Runanga for supply of natives selected as suitable for the forests.

Photo 3: Native Manuka seedling at Wish Hill, planted in 2021

6.7 Protection of Rare, Threatened and Endangered Species

SFL is committed to managing our forests to maintain a diversity of indigenous flora and fauna species. Of particular importance are R,T,E species living within the estate which are discussed under the heading - "6.9 Ecological Assessment".

6.8 Exotic Species – Wilding Prevention

SFL shall comply with any applicable regional pest management strategy including where this identifies a wilding species as a pest. Under the NES-CF, before planting, forests must be assessed for the risk of conifer species spreading to land outside the plantation.

MPI has provided a Wilding Tree Risk Calculator and guidelines which are used for notifications to the Otago Regional Council.

P. radiata and P. radiata X P. attenuata hybrids both have low risk scores and have low risk of wilding spread in the Otago/Southland environment.

6.9 Ecological Assessment

Southern Forests Ltd commissioned Urtica Ecology to prepare an ecological assessment of Wisp Hill Forest (WHF) to support Forest Certification which included:

- An ecological assessment incorporating discussions on landscape features, plant communities, flora, and fauna;
- Identification of High Conservation Value (HCV) areas on the property;
- An assessment of rare, threatened or endangered habitats/species (RTE);
- Recommendations on management, enhancing and encouraging regeneration of various HCV areas including wetlands/riparian areas.
- Identification of future more detailed survey/assessment work (potentially wetlands, lizards, bats and other fauna).

Unlike the other four forests the vegetation of the Wisp Hill Forest is diverse and includes:

- Silver Beech Forest
- Kamahi – Rata/Rimu Forest
- Regenerating Hardwood Forest
- Upland Mountain Holly regenerating Forest
- Shrublands
- Tussock land
- Wetlands

6.9.1 Threatened Environmental Classification (TEC)

The Threatened Environment Classification was developed by Landcare Research (Walker et al. 2007) to help identify places in New Zealand in which the terrestrial indigenous ecosystems, vegetation types and habitats are much reduced and poorly protected nationally. Wisp Hill Forest primarily occurs in a Category 6 Threatened Environment in which nationally > 30 % of indigenous vegetation remains and > 20% is protected. This is the least threatened category at a national scale.

6.9.2 Flora

The ecological survey revealed a flora of 203 native plants present at WHF (please refer to Appendix X in the Ecological Assessment Report).

Of this a total of 11 Nationally/Threatened and At-Risk plants have been recorded along with another 5 regionally threated plants.

6.9.3 Nationally Threatened Plant Species

Only a single nationally threatened plant species has been recorded on WHF, this being Melicytus flexuosus which is from the Violaceae Family

A total of 1000+ plants were recorded from 4 sites on the property. The largest site being in the Cattle Corner wetland/scrub complex (in both branches of the Wairepo Stream

Additionally, there were 7 Nationally At-Risk species recorded including:

- Carex tenuiculmis
- Carmichaelia petrieii
- Bloodwood
- Epilobium insulare
- Olearia lineata
- Carex fretalis
- Native mint

And 6 regional threatened species recorded including:

- Olearia laxiflora
- Coprosma elatirioides
- Machaerina tenax
- Olearia bullata
- Ranunculus membranifolius
- Matai

6.9.4 Fauna

Birds recorded included in the Assessment included the Australasian harrier, South Island Pied Oystercatcher/tōrea (At Risk: Declining), skylark, kereru, yellow hammer, redpoll, greenfinch, goldfinch, NZ pipit/pīhoihoi (At Risk – Uncommon), grey warbler, fernbird/mātātā (At Risk - Declining), bellbird, plover, blackbird, tui, tomtit, brown creeper, fantail, chaffinch, black-back gull, magpie, mallard, pukeko, yellow crowned parakeet/kākāriki (At Risk - Declining) and morepork.

Karearea/NZ falcon (Threatened: Nationally Vulnerable) and morepork are also known to be present (Josh Cairns pers. comm.). Fernbird/mātātā were heard and/or seen at two

locations during the field survey; within *Olearia laxiflora* shrubland on Wisp Hill and in the upper Wairepo catchment in wetland scrub-tussockland.

6.9.5 Long Tail Bat/Pekapeka

No dedicated monitoring or surveys of bats have yet been conducted at WHF by the owners/managers. However, annual monitoring on walking transects using bat detectors shows an abundance of long-tailed bat activity in the vicinity of the Wisp, Lochindorb and the Catlins River Valley (Catriona Gower & Ian Davidson-Watts pers. comm.). Long tailed bats have a threat status of Threatened: Nationally Critical (O'Donnell et al. 2022).

One transect in particular, along Cairn Road (which bisects WHF) is known as 'bat central' due to the much higher levels of long tailed bat activity on this transect compared to others in the local area (Catriona Gower pers. comm.).

It is unknown if long tailed bats are roosting within WHF, though this is possibly unlikely due to the absence of predator control and limited suitable roosting habitat. However, long tailed bats can travel c. 20+km from roosts when foraging.

Given the high detection rates of long-tailed bats along Cairn Road, bats are either transiting or making use of foraging habitat in and around WHF. The variety of habitats present at WHF are likely to feature strongly in their movement patterns and foraging diets and provide year-round foraging opportunities.

This presents SFL an excellent opportunity to establish baseline monitoring of bat activity and changes in relation to afforestation at WHF.

Recent media release by ORC – Oct 2023 regarding Bats identified as severely threated in Otago

https://www.orc.govt.nz/your-council/latest-news/news/2023/october/bats-identified-as-severely-threatened-in-otago/

6.9.6 Freshwater Fish and Invertebrates

Wisp Hill Forest supports a diversity of freshwater fish and invertebrates. Surveys conducted by Fish and Game (Couper 2023) and a search of the NIWA Freshwater Fish Database (NIWA) yielded 5 species of freshwater fish within the Catlins River and tributaries within the bounds of WHF (refer to Table 2 below). A large proportion of these are considered Nationally Threatened or At Risk (Grainger et al. 2018; Dunn et al. 2017).

Note: NIWA Freshwater Fish Database records included a subset of records from 1990 - present day within the upper Catlins River (in vicinity of the WHF and nearby tributaries including Wairepo Creek, Thisbe Creek and others).

Common name	Scientific name	Conservation status
Long fin eel	*Anguilla dieffenbachii*	At Risk: Declining
Koaro	*Galaxias brevipinnis*	At Risk: Declining
Gollum galaxias	*Galaxias gollumoides*	Threatened: Nationally
Clutha flathead galaxias	*Galaxias* species D	Threatened: Nationally
Upland bully	*Gobiomorphus breviceps*	Not threatened
Koura	*Paranephrops*	At Risk: Declining
Brown trout	*Salmo trutta*	Exotic: Not threatened

Table 2: Freshwater fish and invertebrates recorded from the Catlins River and tributaries in the vicinity of WHF

Fish and Game (Couper 2023) Survey link: Otago_FG_Catlins_Investigation_2023.pdf

6.10 High Conservation Value (HCV) Areas

6.1.1 Assessment Criteria

High priority sites surveyed to date were assessed against two frameworks:

- The High Conservation Value (HCV) framework for classification of indigenous habitats in production forests (Forest Stewardship Council 2023), and;
- Standard criteria widely used in assessments of ecological importance/significance in New Zealand (= Other Ecological Importance Criteria).

6.1.2 Forest Stewardship Council (CCV framework)

- HCV 1 – Species diversity. Concentrations of biological diversity including endemic species and rare/threatened or endangered species, that are significant at global, regional or national levels.
- HCV 2 – Landscape level ecosystems and mosaics. Intact forest landscapes and large landscape level ecosystems and ecosystem mosaics that are significant at global, regional or national levels and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.
- HCV 3 – Ecosystems and habitats. Rare, threatened, or endangered ecosystems, habitats or refugia.
- HCV 4 – Critical ecosystem services. Basic ecosystem services in critical situations, including protection of water catchments and control of vulnerable soils and slopes.
- HCV 5 – Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous people (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or Indigenous peoples.
- HCV 6 – Cultural values. Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/scared importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.

Note that HCV 5 (Community Needs) and HCV 6 (Cultural Values) are not ecological criteria and so have not been completed in this assessment.

6.1.3 Other Ecological Importance Criteria

- Representativeness
- Ecological Integrity/Naturalness
- Diversity & Pattern
- Rarity & Distinctiveness
- Ecological Context Criterion

Table 2: Summary of HCV classifications of sites surveyed to date. Key: * Highly meets criteria; ** Moderately meets criteria; * Meets criteria. Other Ecological Importance is assessed against standard criteria including Representatives; Ecological Integrity/Naturalness; Diversity/Pattern; Rarity/Distinctiveness; and Ecological Context.**

Site Name	HCV 1	HCV 2	HCV 3	HCV 4	Other Ecological Importance	Comments
Bite Forest/Shrublands	**		***		***	
Cattle Corner Wetlands/Scrub	***		***		***	
Wisp Ridge/Meat Safe	*	*	**		***	Forested areas on southern flanks not yet surveyed, but will add to the area's importance. Should be included and considered as one management unit.
Wairepo Wetlands			***		**	Includes both lower and upper portions.
Lower Hut Wetland			***		**	
Swamp Wetland			***		**	
River 5 Wetland			***		**	
Picnic Wetland			***		**	
Lower Hogget Wetland			*		*	
Goose Wetland			*		*	
Gut Hole Wetland East			*		*	
Gut Hole Wetland West			*		*	
White Water Wetland			*		*	
Catlins Wetland			*		*	
Cow Wetland			*		*	
Catlins River (riparian)				***	*	Riparian areas, not surveyed but included in this HCV assessment as provides key ecosystem service (HCV4).
Wairepo Stream (riparian)				*	*	Riparian areas, not surveyed but included in this HCV assessment as provides key ecosystem service (HCV4).
Thisbe Stream (riparian)				*	*	Riparian areas, not surveyed but included

Site Name	HCV 1	HCV 2	HCV 3	HCV 4	Other Ecological Importance	Comments
						in this HCV assessment as provides key ecosystem service (HCV4).
Chloris Stream (riparian)				*	*	Riparian areas, not surveyed but included in this HCV assessment as provides key ecosystem service (HCV4).
Chloris Pass Forest (East & West)					**	
QEII Covenant					**	
Upper Homestead Bush					*	
Hunts Kowhai					*	

7.0 THE COMMUNITY

7.1 Stakeholder Consultation

SFL have identified key stakeholders at operational and governance level as follows:

Government Agencies and Local Authorities

- Local Members of Parliament
- Clutha District Council
- Otago Regional Council
- Department of Conservation
- Fish and Game NZ
- Overseas Investment Office

Iwi

- Hokonui Runanga

Industry

- NZ Farm Forestry
- SCION
- SWC
- OFG
- NZFOA
- Competenz NZ
- Worksafe NZ

Social/Public

- Catlins Wisp Hill Trail Ride
- Users of Thisbe Track
- Four Wheel Drive club
- Hunters
- Trampers
- Fishermen
- Horse Treks
- Catlins Area School
- Biking clubs

Neighbours

- Neighbouring property owners
- DOC

SFL commenced informal consultation with stakeholders in advance of operations commencing in May 2021.

The objective was to complete a smooth transition of ownership from the vendors to Ingka by maintaining existing arrangements. That has been achieved.

SFL initiated formal stakeholder consultations in June 2022, involving formal meetings with Ingka Directors and NZ representatives, Ingka legal team, SFL staff and managers, Clutha District Mayor and Owaka Ward Councillor, local Farm Forestry and QEII representative, DOC staff, and Otago Regional Council (ORC) Staff. A separate Hui was held with local Iwi represented by Hokonui Runanga.

Separate discussions have been held with Farming representatives and Fish and Game NZ managers. SFL have a template and management system for recording all stakeholder consultations on or off the property.

Since the formal meetings follow up consultation including site visits have occurred with DOC, ORC, and Hokonui Runanga, to discuss various plans relating to the EMS and SFL resource consent application, including water monitoring, ecological assessments, riparian planting, and pest control.

Forest managers frequently liaise with neighbours to discuss operational matters and future planning.

7.2 Public Access

Providing access

Engaging with the Department of Conservation to allow trampers to walk across the Land to access Thisbe Valley Track within the Catlins Forest Park.

Engaging with the organisers of the Catlins Wisp Hill Trail Ride community fundraiser to discuss options for allowing the event to continue if compatible with obligations under the Health and Safety at Work Act 2015 and forestry operations.

Engaging with Western Southland Trails Trust for a potential shared public walking and mountain bike track through Lillburn Forest.

Ensuring that public access to unformed legal roads on the Land is not obstructed, or that if any obstruction, encroachment, or restriction is required over an unformed legal road the local authority is contacted prior and the requirements of any relevant legislation are met.

Maintaining existing Arrangements – only concerns Wisp Forest

Item One in the OIO Report requires engagement with DOC and that has occurred on a local and regional level with the DOC managers and field staff at Owaka and Invercargill. SFL and DOC have informally agreed to provide members of the public and DOC staff and contractors to have unhindered access across Ingka land to Thisbe Valley Track from Cairn Road.

That agreement will be confirmed in writing once a joint inspection occurs. DOC had no expectation of trampers being provided such access and are therefore very happy with that permission.

SFL have proposed planting manuka and other natives in the riparian margin in the vicinity of the existing track and to setback planting of P. radiata to enhance the views from the hut on the boundary of Ingka land and the Catlins Forest Park.

In addition, SFL have encouraged DOC to erect a sign on Ingka land at the start of the track to signpost and facilitate public access.

SFL have also committed to re-alignment of the track to avoid wetland and riparian margins and committed to gorse control in the vicinity to improve access.

SFL have mapped and located all unformed legal roads on the property and no work has been carried out in the vicinity of that land which obstructs or restricts public access. In every case the unformed legal roads have natural obstructions to vehicle and walking access in form of the Catlins River, heavy gorse infestation on riverbanks, wetlands limiting access on foot or by any vehicle, and fences.

SFL have provided annual management plans to ORC and Clutha District Council (CDC) under NES-CF rules and have had discussions with relevant staff re impact if any on existing unformed legal roads. Access by foot requires significant deviation to avoid natural obstructions and therefore permission from the SFL forest manager of Wisp Hill Ltd (WHL) farm manager.

Such permission is not unreasonably withheld. SFL maintain a formal access system and WHL an informal system.

In addition to the above SFL and Ingka have made it public knowledge that they will encourage and facilitate public access to the property for community groups and others within the constraints of prudent forest management, always ensuring the protection of the land and environment. That includes other recreational activities including tramping, fishing, and hunting.

Specific examples include permission granted to the Wyndham Four Wheel Drive Club for a rally in 2022 and the 2023 Catlins Canter a horse-riding event run by the Owaka Lions Club as a fundraiser towards community projects.

Access to the Catlins River for trout fishing will be significantly enhanced by the spraying and removal of heavy old-man gorse along the banks of the river. That clearance by aerial spray, raking by digger, and burning has been endorsed by Fish and Game and ORC.

One of the suggestions made during formal consultation was the prospect of a bike park at Wisp Hill connected to the Catlins cycle trail network. That idea will be given due consideration by Ingka in future.

Koneburn - as far as we are aware there are no existing arrangements in place in relation to public access over the land. However, there are Transmission Lines running through the forest of which have statutory access rights to the lines company.

Beaumont - as far as we are aware there are no existing arrangements in place in relation to public access over the land.

Whyte Road - as far as we are aware there are no existing arrangements in place in relation to public access over the land.

Lillburn - as far as we are aware there are no existing arrangements in place in relation to public access over the land, however Westland Southland Trails Trust have indicated they would like to engage regarding public access for walkers and mountain bikers through the forest.

7.3 Iwi Engagement

SFL have met with local Iwi represented by the Hokonui Runanga on several occasions as a stakeholder and to discuss cultural and social issues arising from forest establishment within the Ingka Estate.

The Hokonui Runanga based in Gore, represent Ngai Tahu, Ngāti Mamoe, Waitaha and Ngāti Kuri tangata whenua. The Runanga is one of 18 Papatipu Runanga o Ngai Tahu who represents the wider interests of all Ngai Tahu and associated Iwi and hapu, which covers most of the Te Waipounamu and Rakiura (South Island and Stewart Island).

Because of that engagement, Hokonui Runanga are to be operationally involved in some aspects of the afforestation project as a potential provider of all or some of the following depending on their resources and capability:

- Cultural advice
- Pest control specifically possums and mustelids. With assistance by Iwi youth in training programme

- Supply of native seedlings from Invercargill nursery, subject to genetics and specification, and availability

Following consultation meetings, it was apparent that Iwi values align with Ingka conservation social and cultural values and Iwi desire to work with Ingka as a result. From this a ***"Strategic Relationship Agreement between Ingka Investments and the Hokonui Runanga"*** was formulated in July 2023.

SFL work actively with Hokonui Runanga to support Runanga education, training, and employment initiatives.

7.4 Socio-Economic Conditions

SFL has offices in Gore, Owaka and Wanaka and our contracted workforce is spread throughout several smaller communities in Otago and Southland. The forest SFL manages on behalf of Ingka is in areas of rural NZ where there have at times been high levels of unemployment relative to the rest of NZ due partly to the limited range of jobs available in small communities. The economies of these communities are often dependant on forestry or forestry related industries.

7.5 Employment

Ingka and SFL are acutely aware of the impact of change in land use on rural communities and potential impact on social life in the region and employment opportunities.

- Since May 2021 Ingka and SFL have contracted many people to clear land, undertake gorse and weed spraying, build roads, plant seedlings, release spray seedlings and undertake pest management.
- Since October 2021, there have been at least three people fulltime working on the forests preparing ground for the afforestation project, and there has been the equivalent of four part time employees (20 plus hours per week) working in planning, mapping, management offsite and supervision.
- During planting and release spraying operations (which last several weeks per year), over forty people are directly employed. That will increase to sixty people for the 2024/2025 programs.
- Ingka and SFL have consciously engaged contract labour locally and local contractors are already seeing the benefit – a local agriculture contractor has been able to purchase additional machinery to carry out roading and land prep at Wisp Hill, and a local helicopter company has been contracted for all the weed/gorse spraying programme and aerial pest control. In fact, all people working on forestry operations within the forests are local in that they live within daily travel range.
- Ingka's management strategy is to produce high quality fully tended forests. Significant labour will be required for pruning, thinning, pest management and weed control for the first 12 years after planting (note planting will be progressive over four years so labour requirements will increase with time and extend over a minimum 16-year period).
- Forestry requires a higher standard of roading than pastoral farming and to date more than thirty kms of all-weather roads have been built/upgraded within the

forests. The roading infrastructure facilitates good 4wd vehicle access and is an important consideration in the event of a fire, and for safe and efficient access for contractors and recreational users.

- The roading and land clearing programs have provided a lot of new employment in the region, and that will continue for another 12 months.

As noted previously SFL will encourage employment on the forests through Iwi training and forest industry initiatives

7.6 Recreation

7.6.1 Fundraiser Events

SFL are currently in Collaboration with Gore Bike Club in opening up main access tracks in the estate to allow for Club runs plus coordinate in conjunction with local community groups fund raising events based round cycling/running/walking/rafting. Target community groups include:

- Early Childhood Centre which is owned by the Owaka Community Trust
- Owaka Community Pool Project (currently in fund-raising mode)
- Heli pad for Search and Rescue missions

7.6.2 Other Recreational Activities

Other recreational activities that will be developed include tramping, and fishing. Camping is an activity that may be incompatible with forestry development due to potential fire risk but could be accommodated in non-plantation areas. SFL intend to engage with locals and DOC to consider possibilities.

8.0 MONITORING

8.1 General

SFL are constantly monitoring how our activities effect environment, social and economic values. Our monitoring is a significant contributor to the development of strategies that ensures SFL continues to manage its activities in a sustainable way which meets our continual improvement aspirations and is consistent with our commitments to a Forest Certification Scheme

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

8.2 Operations Monitoring

SFL regularly conducts internal environmental audits to confirm operations have been carried out in accordance with work prescriptions and regulatory requirements, and to identify any corrective actions required.

In addition, SFL staff will be undertaking bi-annual Environmental Systems Audits with all contractors operating in the Ingka South Estate to ensure they are complying with our EMS and company procedures

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

8.3 Biodiversity Monitoring

SFL conducts a range of surveys across the forests to monitor both impacts of forestry operations on indigenous fauna and to monitor health and changes to populations. With the recent Ecological Assessment of the Wisp Forest, SFL is gradually extending their monitoring programme. Current monitoring includes:

- Stream Health – prior to and after Afforestation
- Pest control
- To initiate annual monitoring of HCV sites monitoring of key rae species, especially the regionally significant population of *Melicytus flexuosus*
- To initiate monitoring of native fisheries in the Catlins River using electric fishing
- To initiate periodic monitoring of rare, threatened and endangered species populations to monitor changes in populations over time. Current threatened endangered species which will be monitored includes:
    - South Island Oyster Catcher
    - Fernbird
    - Yellow Crowned Parakeet
    - NZ Falcon
    - Long Tail Bats (Pekapeka)
- Pest surveys are currently monitoring possums in Koneburn Forest

Staff and contractors are encouraged to report sightings of R,T,E species, such as NZ Falcon, Oyster Catchers and Fernbirds. Sightings will be recorded in our sightings register.

8.4 Forest Growth

Forest growth is monitored through a combination of PSP and regular forest inventory.

Forest inventory is undertaken at regular intervals during the life of a crop with the first formal assessment at around five, with several further assessments leading into pre-harvest inventory. These measurements form the basis of yield tables used to model the likely harvest volume available from the forest.

8.5 Selected sample of the Monitoring Schedule

(Please refer to the "SFL Monitoring Plan" for the detailed Monitoring Schedule)

Factor Monitored	Monitoring Activity	Monitoring Requirement: Certification Criteria	Frequency/Due Date	Responsible Party/Method	Key Identified Objective
Use of Genetically modified organisms.	Effects of Chemical, Bio Control, GMO, or Fertiliser Use	Environmental Impacts and Changes in Environmental conditions (8.2.2) Impacts (8.2.2) d. The use of Genetically modified organisms to confirm that they are not being used. (Criterion 10.4);	Annual September 1st at Tree Stock ordering	Operations Manager request email confirmation from supplier that non-GMO are used	Environment
Environmental damage following spray releases	Effects of Chemical, Bio Control, GMO, or Fertiliser Use	Environmental Impacts and Changes in Environmental conditions (8.2.2) Impacts (8.2.2) k. Checks are made to ensure environmental damage is avoided after spray releases;	Post Operational Check	Operations Manager, SFL Forest Manager	Environment
Health of workers exposed to pesticides	Contractor Health, Safety and Wellbeing	Social Impacts of management activities (8.2.1) Social Impacts (8.2.1) i. Where pesticides are used, the health of workers exposed to pesticides (Criterion 2.5 and Criterion 10.7)	Biannual Contractor Survey	Health and Safety Manager/Forest Manager	Health & Safety

Factor Monitored	Monitoring Activity	Monitoring Requirement: Certification Criteria	Frequency/Due Date	Responsible Party/Method	Key Identified Objective
Environmental damage following fertiliser application	Effects of Chemical, Bio Control, GMO, or Fertiliser Use	Environmental Impacts and Changes in Environmental conditions (8.2.2) Impacts (8.2.2) f. Number of Adverse impacts to environmental values from fertilisers (Criterion 10.6);	Post Operational Check	Forest manager/Forest supervisor	Environment
Compliance from Regulatory Authority / Worksafe inspections	Compliance with all applicable Laws and Regulations.	Social Impacts of management activities (8.2.1) Social Impacts (8.2.1) b. Compliance with applicable laws, local laws, ratified international conventions and obligatory codes of practice (Criterion 1.5);	As approached	External party report to SFL	Compliance
To ensure our business is Commercially and Economically viable.	Profitability	Forest Economic Value	Annual	Owner driven Model analysis/Appropriate R.O. I	Economic
Discovery or inspections of security gates and locks, camera footage if available. Reports from Stakeholders.	Illegal Entry and theft.	Social Impacts of management activities (8.2.1) Social Impacts (8.2.1) a. Evidence of illegal or unauthorised activities (Criterion 1.4);	As reported/Just cause	Forest Manager/Forest Supervisor	Social and Cultural
Operational Quality Control	Planting QC	HSW and Operational Monitoring	Planting season	Forest Supervisor/Forest Manager	Economic

Factor Monitored	Monitoring Activity	Monitoring Requirement: Certification Criteria	Frequency/Due Date	Responsible Party/Method	Key Identified Objective
Environmental damage following fertiliser application	Effects of Chemical, Bio Control, GMO, or Fertiliser Use	Environmental Impacts and Changes in Environmental conditions (8.2.2) Impacts (8.2.2) f. Number of Adverse impacts to environmental values from fertilisers (Criterion 10.6);	Post Operational Check	Forest manager/Forest supervisor	Environment
Compliance from Regulatory Authority / Worksafe inspections	Compliance with all applicable Laws and Regulations.	Social Impacts of management activities (8.2.1) Social Impacts (8.2.1) b. Compliance with applicable laws, local laws, ratified international conventions and obligatory codes of practice (Criterion 1.5);	As approached	External party report to SFL	Compliance
To ensure our business is Commercially and Economically viable.	Profitability	Forest Economic Value	Annual	Owner driven Model analysis/Appropriate R.O. I	Economic
Discovery or inspections of security gates and locks, camera footage if available. Reports from Stakeholders.	Illegal Entry and theft.	Social Impacts of management activities (8.2.1) Social Impacts (8.2.1) a. Evidence of illegal or unauthorised activities (Criterion 1.4);	As reported/Just cause	Forest Manager/Forest Supervisor	Social and Cultural

8.6 Examples of current monitoring

8.6.1 Pest Monitoring

Pest control results for all five forests are in the tables below. Note: There was no poisoning with all pest control undertaken by professional cullers with most carcases removed.

Pest Control Records - Wisp					
Pest Type	**Hares**	**Rabbits**	**Possums**	**Deer**	**Pigs**
Total for 2024	504	34	1173	161	64
Total 2021-24	811	62	1535	1008	339

Pest Control Records – Whyte					
Pest Type	**Hares**	**Rabbits**	**Possums**	**Deer**	**Pigs**
Total for 2024	71	6	187	13	0

Pest Control Records - Lillburn					
Pest Type	**Hares**	**Rabbits**	**Possums**	**Deer**	**Pigs**
Total for 2024	118	0	484	92	11

Pest Control Records - Koneburn					
Pest Type	**Hares**	**Rabbits**	**Possums**	**Deer**	**Pigs**
Total for 2024	237	18	19	29	3
Total 2023-24	498	18	29	45	11

Pest Control Records - Beaumont					
Pest Type	**Hares**	**Rabbits**	**Possums**	**Deer**	**Pigs**
Total for 2024	0	9	27	3	17

8.6.2 Water Monitoring

SFL undertakes twice yearly monitoring of key river/streams to validate best management practices and indicate if any adverse effects are occurring. As the land use is changing from framing to production forestry we are already seeing an noticeable change in stream health particularly with e. Coli levels reducing.

We believe stream health will only continue to improve with extensive riparian plantings in native trees which are essential for erosion management, reducing downstream sedimentation and ultimately improving water quality and stabilising water temperature and oxygen levels. The value of these riparian/wetland management area's will be more evident when harvesting commences in 25-30 years.

Monitoring kits are sourced from the National Institute of Water and Atmosphere (NIWA) to ensure data is collected consistently and accurately. Below table references; data type, frequency, results and any commentary (stable/positive/negative) and any red flags.

Data type	**Frequency**	**Result**	**Commentary** **(Stable/positive /negative)**	**Red Flag**
Visual Clarity/ Turbidity	12 monthly			
Water temperature	12 monthly			
Conductivity	12 monthly			
Nitrate	1 lab test each site, each summer			
Phosphates	1 lab test each site, each summer			
E. coli	1 lab test each site, each summer			

Reporting the above information to the Country Manager to be 12 monthly – highlighting any potential red flags.

Water sampling data for each forest can be obtained by the following links:

- Wisp Hill Forest water sampling data sheet.xlsx
- Koneburn Forest water sampling data sheet.xlsx
- Lillburn Forest water sampling data sheet.xlsx
- Beaumont Forest water sampling data sheet.xlsx
- Whyte Road Forest water sampling data sheet.xlsx

8.6.3 Herbicide & Chemical Use

SFL uses several FSC approved Environment and Social Risk Assessment Herbicides (ESRA) and below table lists what chemicals and the application rate's it has used in 2023.

Herbicide Quantity January 2023 - December 2023					
Commercial name of pesticide / herbicide	**Active ingredient**	**Quantity applied annually (kg or lbs)**		**Size of area treated annually (ha or ac)**	**Reason for use**
Terb500	500 g/litre terbuthylazine	5000	litres	500	Release spraying seedlings, used to kill grass and young seedling weeds. A one off operation, either aerially applied with helicopter or spot spraying/knapsack.
Ignite/Gallant Ultra	520 g/litre haloxyfop-P-methyl	130	litres	520	As above
Glyphosate 450/510	450g/L or 510g/L Glyposate	5320	litres	665	Preplant spraying, of areas with heavy gorse regen, bracken fern, blackberry, woody weed species. Generally a one off operation. Also used to preplant spot spray for native seedlings.
Meturon WDG 600/Associate 2k	600g/kg Metsulfuron-methyl	75	kg	250	Added to Glyphosate preplant brew to kill seedling gorse, broom and bracken fern. (One off operation)
Satur8	Polyalkyleneoxide modified heptamethyltrisiloxane	980	litres	653	Added to Glyphosate preplant brew to assist with herbicide uptake by target species (One off operation)
Verstill Powerflo	600g/litre Clopyralid	45	litres	90	Added into Gallant/Terb500 brew to target thistle and other weeds (one off operation)
Terbhex	67 g/kg hexazinone and 150 g/kg terbuthylazine as a granular formulation	5000	kg	909	Used to spot spray release seedlings after planting. Applied at 5 grams per tree, targets grass and broadleaf weeds. Generally a one of operation as it has a 12 month residual and allows the seedlings to establish without competition
Tordon XT	100 g/L picloram, 8 g/L aminopyralid, 300g/L triclopyr	2000	litres	200	Brushweed killer - used to target gorse and broom, applied either with helicopter or by spray gun/hand gun

8.6.4 Forest Health Monitoring

- Existing PSP's (Permanent Sample Plots) have been identified, mapped and monitored. More PSPs are to be established through afforestation increments each year with the existing to be remeasured in 2025.
- Forest health surveys were conducted in 2024

8.6.5 Wahi Tapu and Archaeological Sites

- Part of the OIO due diligence required Ingka to do extensive research and consultation with the Vendor regarding any archaeological/Wahi Tapu sites. The Vendor advised that there are no wahi tapu or wahi tapu areas of the land, and nothing was identified on the Sensitive Land Certificate.

9.0 EMISIONS TRADING SCHEME

The landowner, Ingka Investments Forest Assets NZ Limited, have and will continue to register planted areas in the ETS and will own any NZUs allocated. More recent plantings have yet to be registered and will be added in the current Commitment Period (CP4).

The carbon units are not a focus of Ingka's investment, is not included in their financial modelling, and do not comprise part of their business objectives. The carbon assets will be retained with the landowner and not Ingka Investments Management NZ Limited.

Ingka have made it known publicly that they do not intend to trade carbon or use it as an offset for Ingka Group carbon accounting. Their intention is to be a responsible company in mitigating and reducing emissions by other methods.

Ingka's holding account number in the New Zealand Emissions Trading Register is NZ-13533.

10.0 PLANNING

This Estate Management Plan pertains to the management of Ingka South and will be adhered to for the next five years. Any deviation from this Plan will be justified only on the basis the changes do not adversely affect the environment. Any changes, which are contrary to the policies in this Plan require a full review of the Plan.

The next review date for this Plan is: **January 2026**

The review will include review of planned monitoring, reserve areas and their protection, stakeholder engagement and financial performance.

The Estate Management Plan is used for both medium- and long-term planning.

For short-term operational and budgetary control planning, operations plans are prepared on an annual or as necessary basis. These plans are prepared annually and in accordance with this management plan. Operational plans and associated budgets are subject to approval by Ingka mid-year.

APPENDIX 1: Health & Safety and Environmental Policies

Health and Safety Policy

Our goal is that everyone goes home safe – every night

We believe

- That all fatalities and injuries are preventable
- In a culture where the health and safety of all people is an over-riding priority
- That excellence in health and safety is crucial to our long-term success
- All incidents are preventable
- The behaviours of our leaders influence safety – "the standard you walk past is the standard you accept".
- That anyone can stop an unsafe act

Our Commitment is to

- Ensure workers and other persons understand and accept their responsibilities to promote a safe & healthy workplace, with a strong H&S Culture
- Provide a safe workplace, safe equipment and proper materials
- Take all reasonably practicable steps to identify, control and monitor work related health hazards
- Establish safe working practices and ensure that they are always followed
- Provide an unconditional "no blame" H&S Environment where all workers are encouraged to report unsafe or risky work practices. No-one will be challenged or reprimanded for refusing to work in unsafe conditions
- Monitor the health & wellbeing of workers and ensure that the risks that they are exposed to in the workplace are not having an adverse effect on their wellbeing
- Encourage identification and acknowledgement of fatigue and mental wellbeing in individuals and their work mates and empower workers to take proactive action to ensure fatigue and mental wellbeing does not contribute to unsafe work practice
- Ensure that all incidents are recorded and reported in a meaningful and timely way to improve H&S outcomes and to help ensure continuous improvement and safe work practices
- Provide supervision and on-going training
- Encourage worker engagement, participation and representation
- To create interest and enthusiasm in safety
- Promote personal responsibility for safety
- Create a workplace free from the adverse effects of Drugs and Alcohol
- Comply with all relevant legislation, Codes of Practice and Industry Standards
- Commitment to continuous improvement of this H&S policy by updating at least annually and setting objectives
- Commitment to the safe and early return of an injured/unwell person to work
- Commitment to consult, co-operate and co-ordinate activities with all other PCBU's who have a duty in relation to the same matter.

Employees and Contractors shall share the responsibility and must

- Promptly report incidents, unsafe practices and conditions
- Comply with procedures, training, instructions and lifesaving rules

Paul Molloy

CEO – Southern Forests Limited

Environmental Policy

Our Commitment	Southern Forests Ltd is committed to the responsible stewardship of forests under our management. It is our goal to deliver optimal value to our investor clients, while protecting the future productivity of the land and ensuring that over time the environmental, cultural and community values of the forests we manage are maintained or enhanced.
Legal and other requirements	We will operate our business so that we meet or exceed all statutory environmental requirements, relevant Codes of Practice, industry best practice guidelines and agreements as described in the company EMS.
Treaty of Waitangi	We will conduct our business in accordance with the principles of the Treaty of Waitangi that are relevant to our operations, as articulated through legislation.
Third party certification	We will seek to maintain third party certification and conduct our operations in accordance with the requirements of the organisations and standards to a Forest Certification scheme.
Resources	We will allocate sufficient resources to ensure the responsible stewardship of the forests under our management, and to further develop knowledge of plantation forestry through involvement in industry trials and research.
Training and development	We are committed to training and developing managers, employees, and our contractors to ensure that all individuals working on behalf of Southern Forests Ltd are competent in meeting the company's environmental requirements.
Systems and practices	We will develop and implement best practice systems and management practices to ensure a systematic approach to forest management and the maintenance and enhancement of the soil, water, biodiversity, cultural, landscape amenity and community values of our forests.
Stakeholder engagement	We will proactively engage with stakeholders and interested parties to ensure consideration of their views in forest management planning, promote constructive community relationships and increase awareness and understanding of our operations.
Continuous improvement	We will undertake regular reviews of our forest management systems considering new information, to strive for continuous improvement in our operations and forest stewardship outcomes.

Environmental Objectives

Environmental objectives are the long-term goals that SFL sets itself and these arise from the Environmental Policy, Management Review decisions and regulatory requirements.

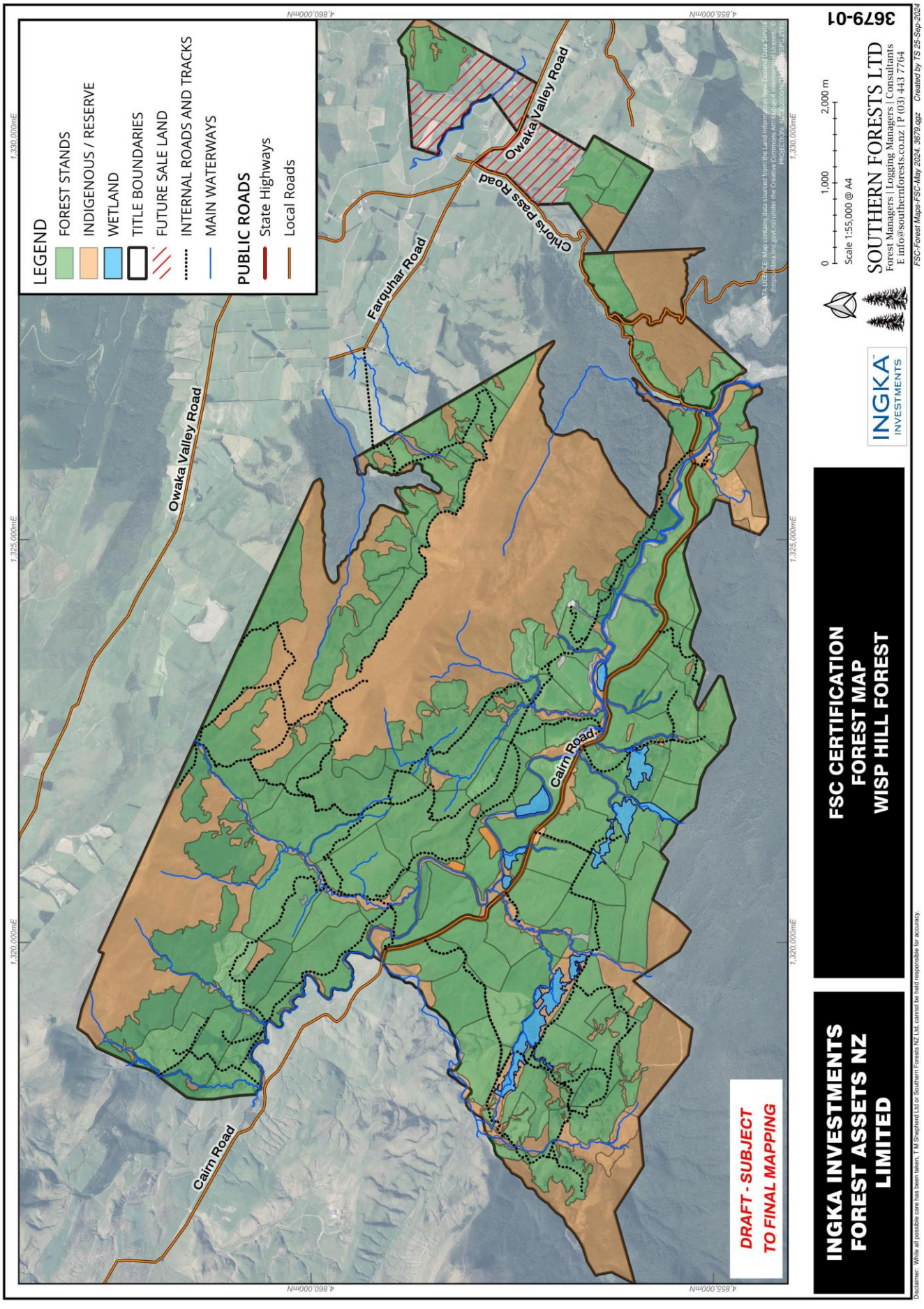
In addition to those key broad objectives set out in the SFL HSE Policy, the following more specific goals are considered important to achieve a high standard of environmental performance.

To manage the forests in compliance with:

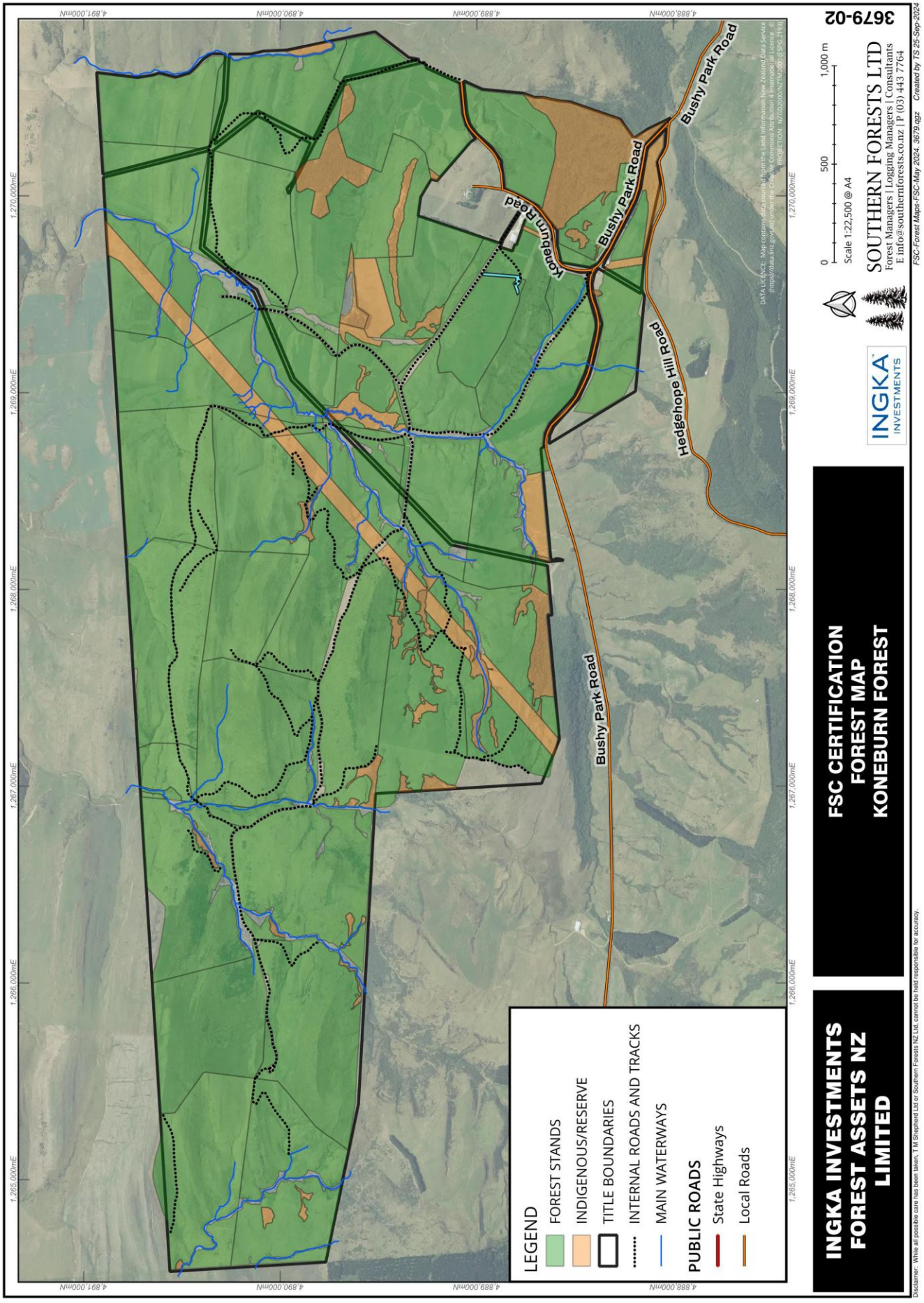
- All relevant legislation
- The Principles for Commercial Plantation Forest Management in NZ
- The NZ Forest Accord
- NES-CF
- To identify and consider environmental and social values when planning and undertaking operations so as to minimise impacts on the environment and the community.
- To identify and protect areas or significant ecological and scientific value within our managed forests and put in place processes to protect and where practical enhance identified values.
- To manage our forests sustainably and minimise adverse effects of forest operations on soil and water values.
- To minimise the impact of operations on archaeological and cultural sites.
- To minimise the impact of operations on amenity values (visual, noise and air effects) and neighbouring properties.
- To manage and use chemicals responsibly and seek to minimise the use of chemicals in our operations as far as practical.
- To capture and learn from environmental incidents through incident reporting, investigation and sharing of learnings.

APPENDIX 2: Maps of the Ingka South (managed by SFL illustrating Forest Stands, Indigenous/Reserve and Wetlands)

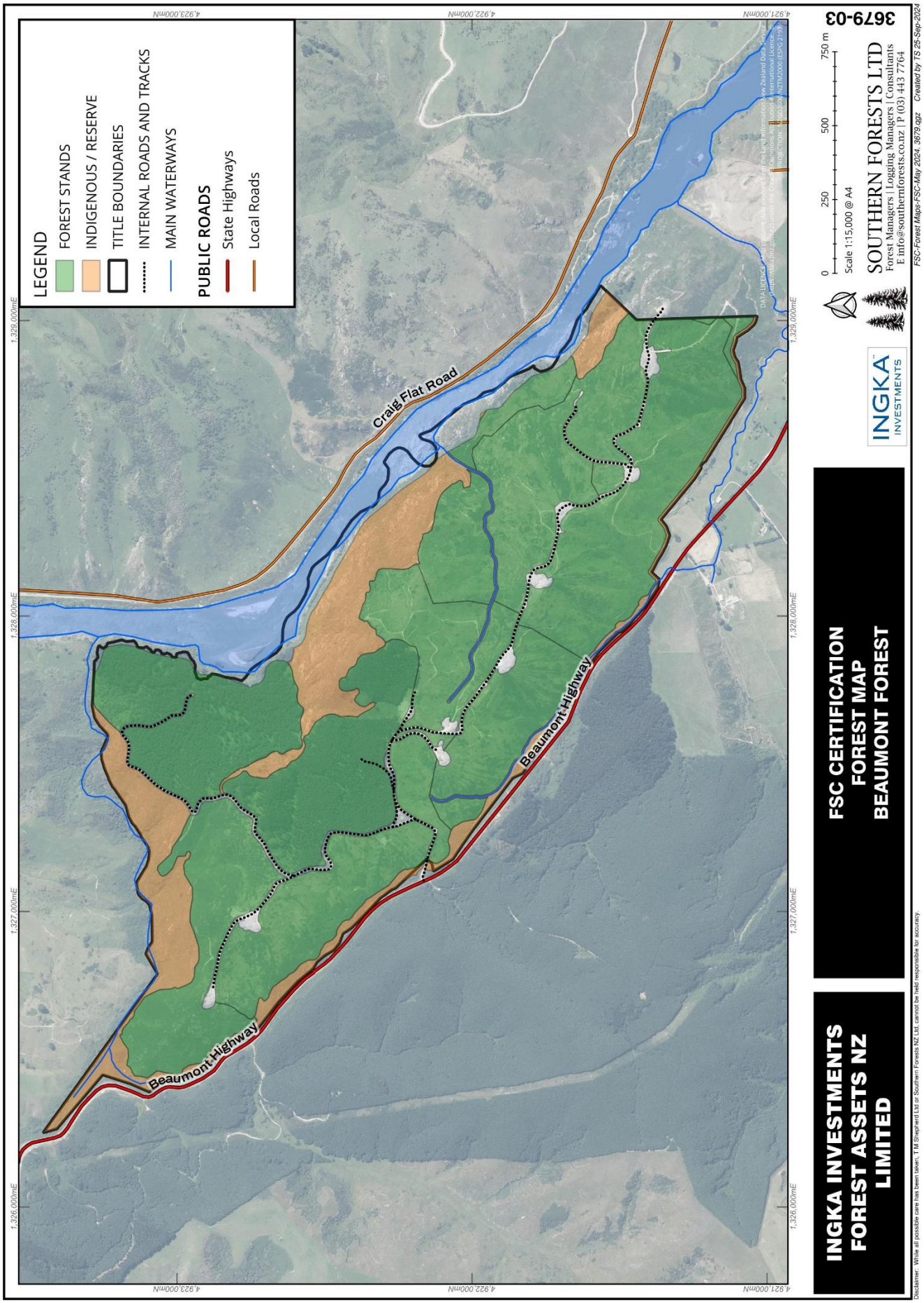
Wisp Hill Forest



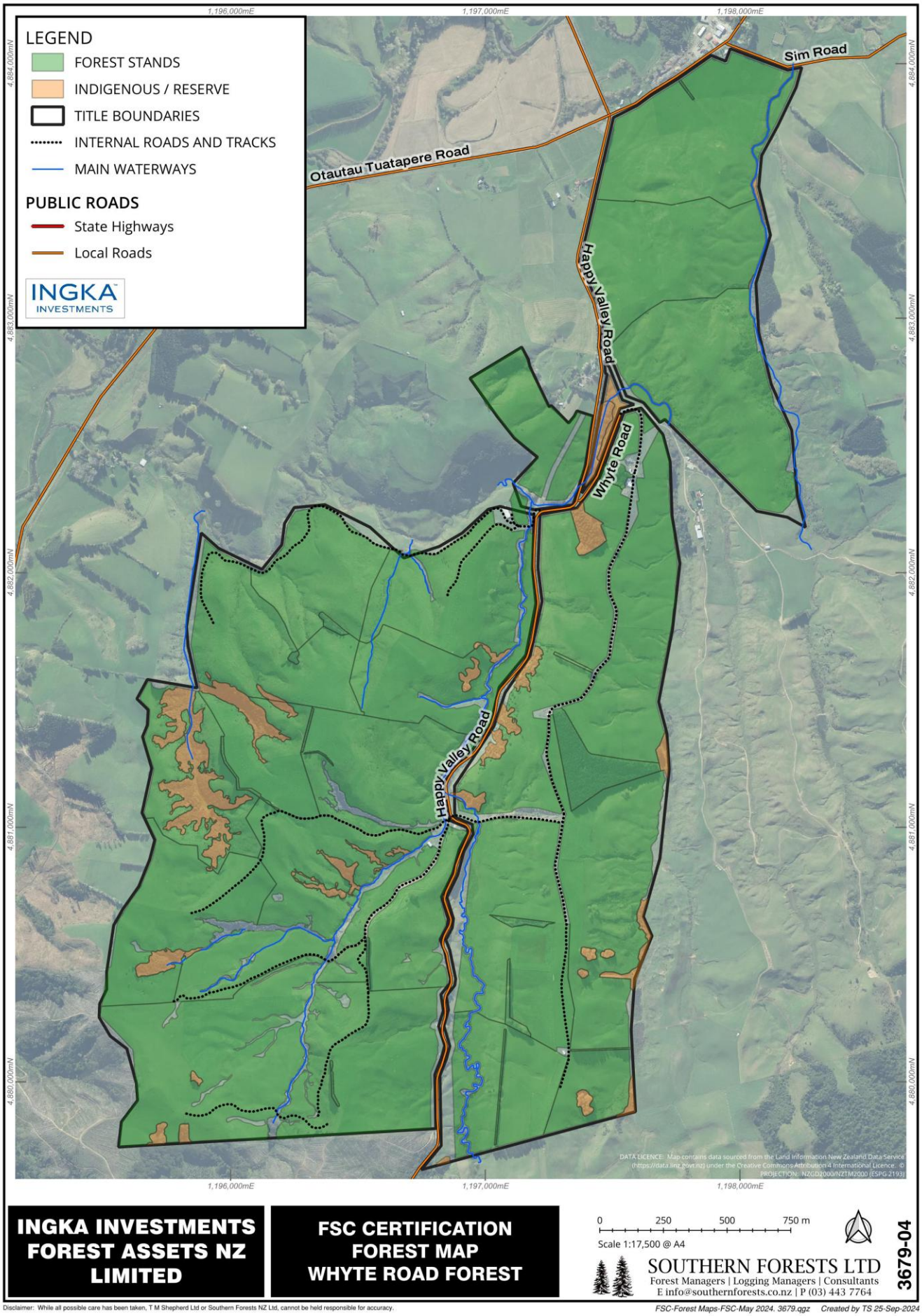
Koneburn Forest



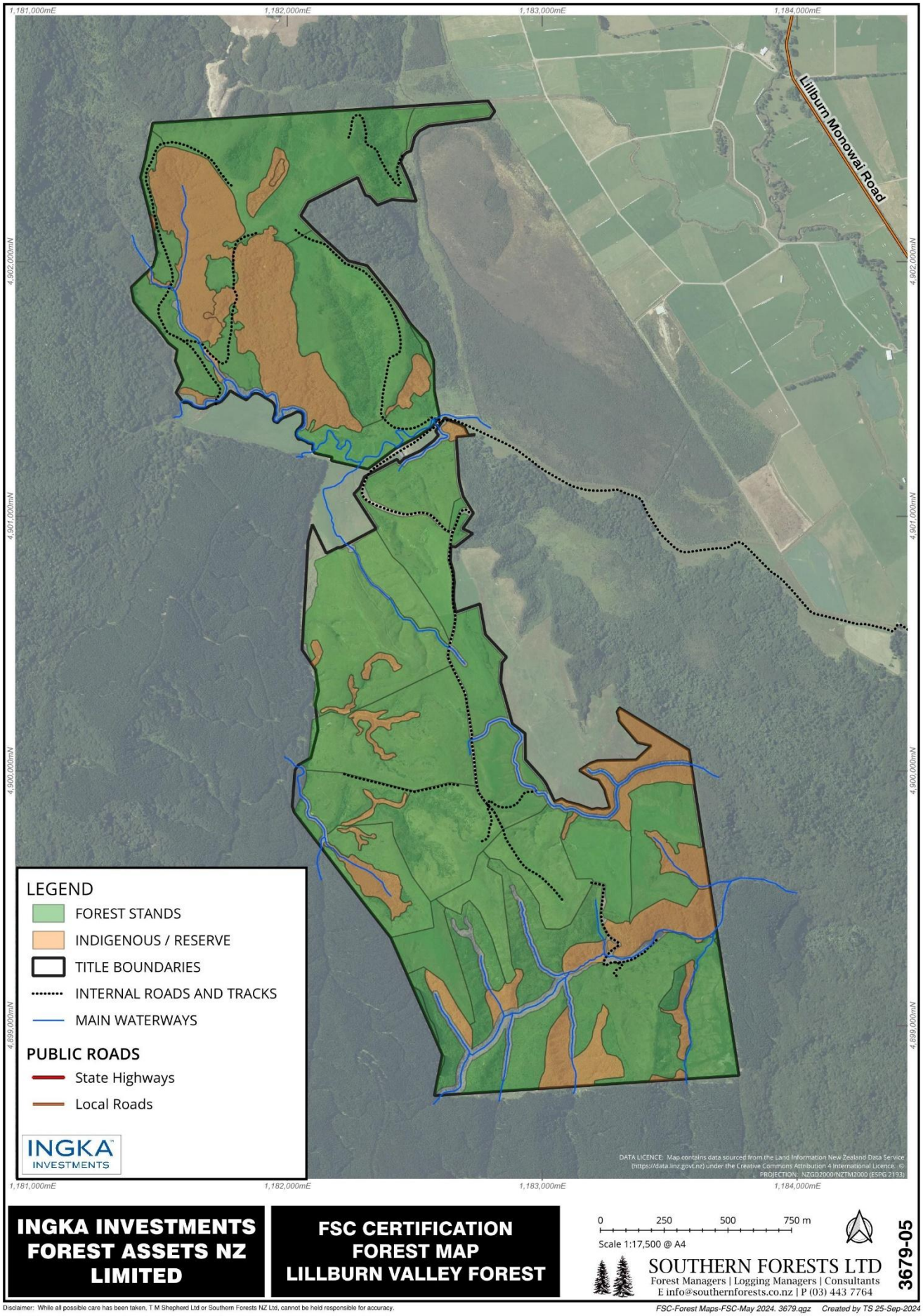
Beaumont Forest



Whyte Road Forest



Lillburn Forest



APPENDIX 3: Identified HCV Areas in the Ingka South (managed by SFL)

High Conservation Value Forests classification description

FSC Indicator 9.1.1 provides guidance on the definition of High Conservation Value Forests in New Zealand:

HCVF1: Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).

HCVF2: Forest areas containing globally, regionally, or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

HCVF3: Forest areas that are in or contain poorly represented, threatened, or endangered ecosystems.

HCVF4: Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).

HCVF5: Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).
HCVF6: Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological,
economic or religious significance identified in cooperation with such local communities.

Once we our HCV report include the areas/maps

APPENDIX 4: Forest Land Titles

WISP HILL FOREST

TITLE	LEGAL DESCRIPTION	AREA (Ha)
OT18C/1015	Section 1, Section 2 and Section 3 Survey Office Plan 24897	3,158.7600
OT180/87	Section 7 and Section 11 Block VI Catlins Survey District	92.4100
90649	Section 1-7 Survey Office Plan 311583	1,836.1900
OT230/98	Section 5 Block VI Catlins Survey District	97.5292
OT13D/127	Section 1 Survey Office Plan 10034	4.4364
OT310/197	Part Section 29 Block IV Catlins Survey District	41.3920
OT411/65	Section 43 Block IV Catlins Survey District	42.0367
OT69/79	Section 19 Block IV Catlins Survey District	40.4686
OT231/11	Section 9 Block IV Catlins Survey District	35.2077
OT9A/37	Section 8, Section 22 and Section 47-48 Block IV Catlins Survey District	150.8186

KONEBURN FOREST

TITLE	LEGAL DESCRIPTION	AREA (Ha)
SL6B/175	Section 101 Block II Waimumu Hundred	0.0064
SL6A/993	Lot 1 Deposited Plan 9755, Lot 2 Deposited Plan 7027, Lot 3 Deposited Plan 7026 and Section 1-3 Survey Office Plan 9606	180.2287
1175056	Lot 1-4 Deposited Plan 602110 and Part Section 17 Block I Waimumu Hundred and Lot 6-7 Deposited Plan 5208 and Section 1 Survey Office Plan 10288	673.3089

BEAUMONT FOREST

TITLE	LEGAL DESCRIPTION	AREA (Ha)
OT16B/458	Section 22, Section 29-30, Section 69-71, Section 73, Part Section 18, Part Section 34, Part Section 36, Part Section 49 and Part Section 51 Block I Crookston Survey District	81.0075
OT14B/26	Section 7 Block VI Town of Bastings, Section 44, Section 50, Section 52 and Section 77 Block I Crookston Survey District and Section 13-14 and Section 47 Block XV Crookston Survey District	152.6528
OT16B/852	Section 40 and Part Section 16 Block XV Crookston Survey District	23.1589

WHYTE ROAD FOREST

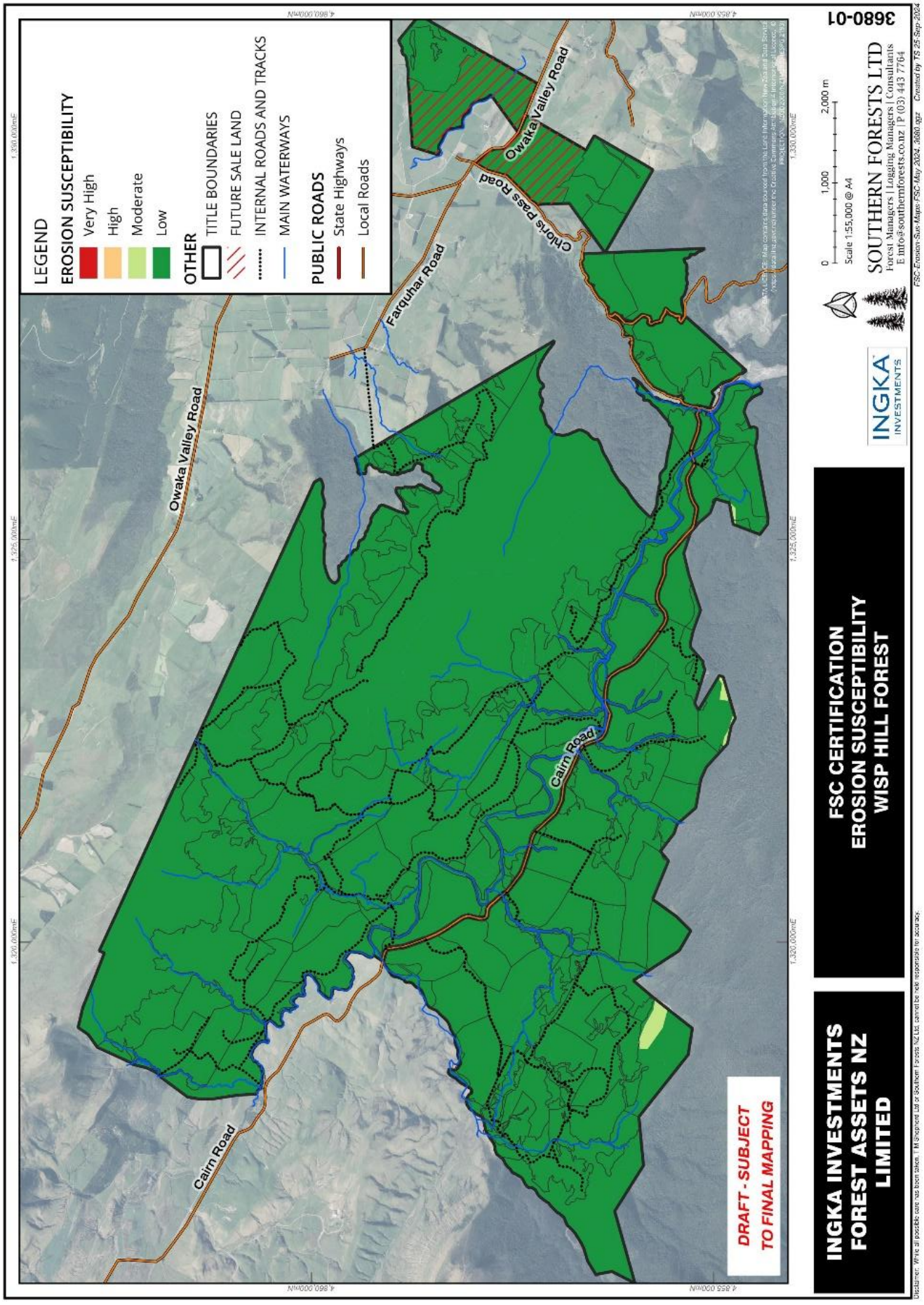
TITLE	LEGAL DESCRIPTION	AREA (Ha)
SL8A/623	Part Section 3 Block XIV Waiau Survey District	141.2505
SL12A/832	Section 4 Block XIV Waiau Survey District	68.7966
SL3A/21	Section 39-40 Maori Hill Settlement	181.8526
SL231/43	Section 25 and Section 1 of 10 Maori Hill Settlement	99.2365
586146	Lot 2-3 Deposited Plan 455455	106.2722

LILLBURN VALEY FOREST

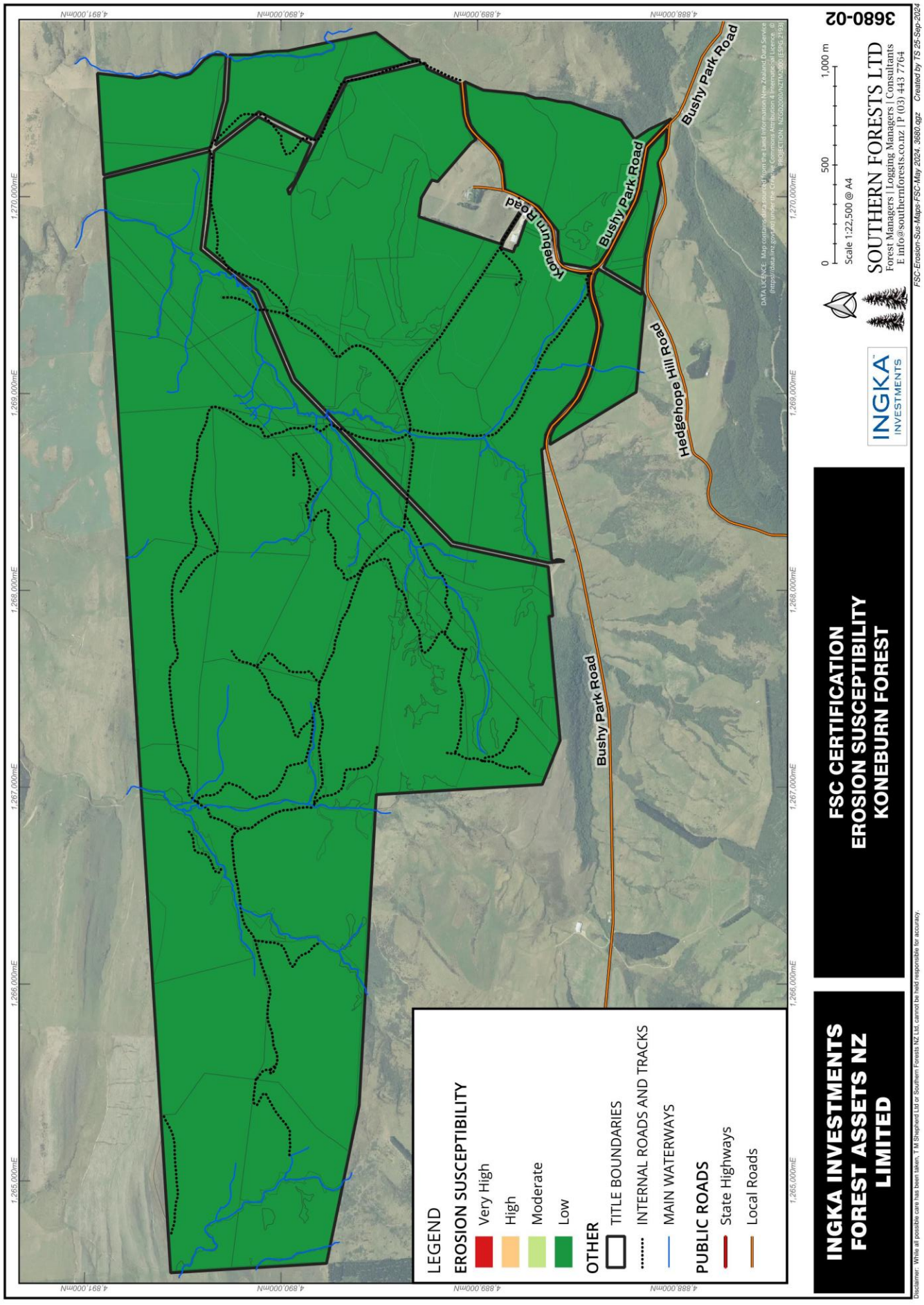
TITLE	LEGAL DESCRIPTION	AREA (Ha)
SL9D/249	Section 3 Block XII Lillburn Survey District	3.0351
220304	Lot 1, 4-12 Deposited Plan 353919	218.7994
505876	Lot 2 Deposited Plan 352585 and Lot 4 Deposited Plan 10283 and Section 12 Block XII Lillburn Survey District	179.5696

APPENDIX 5: Ingka South illustrating Erosion Susceptibility Land

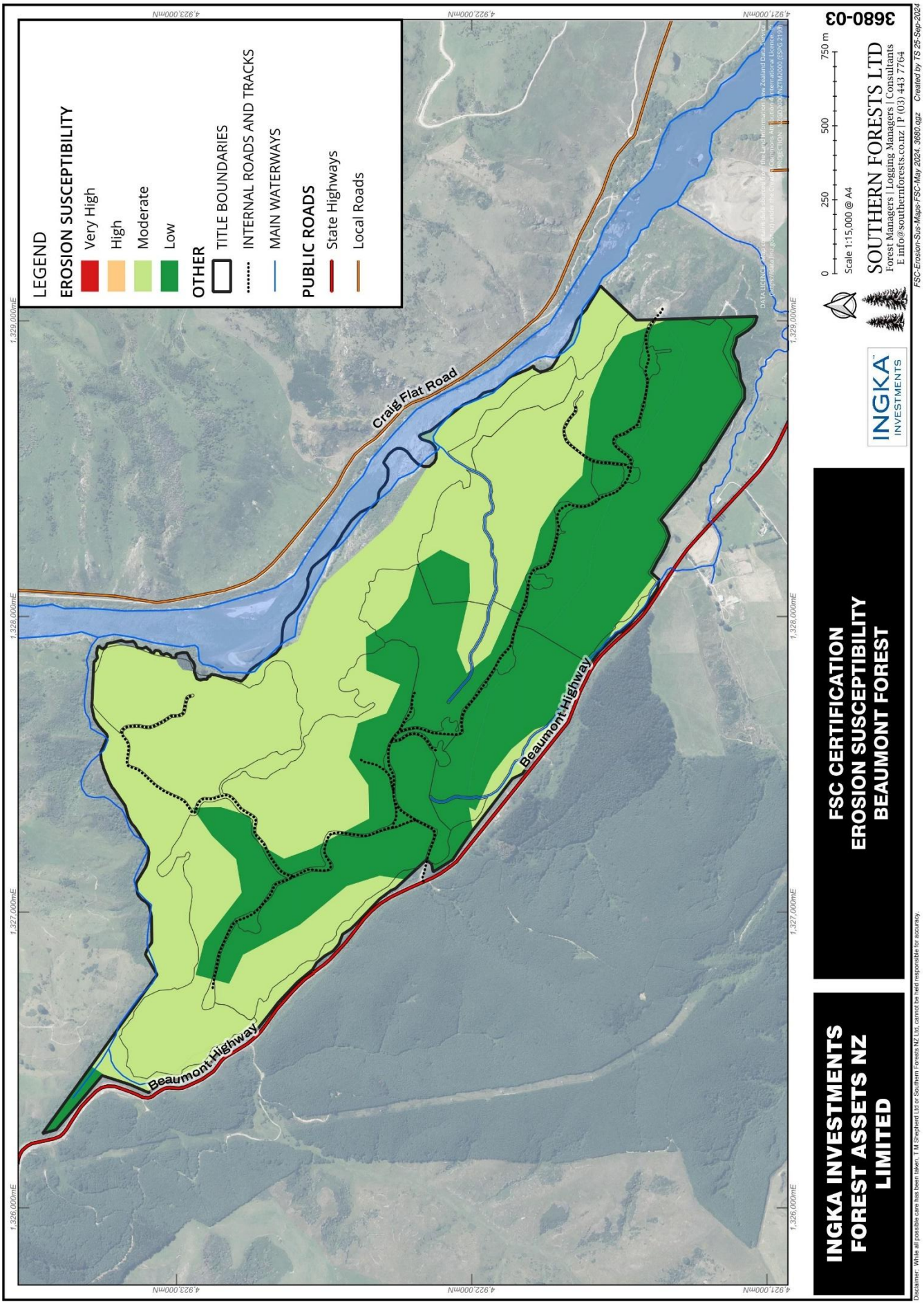
Wisp Hill Forest



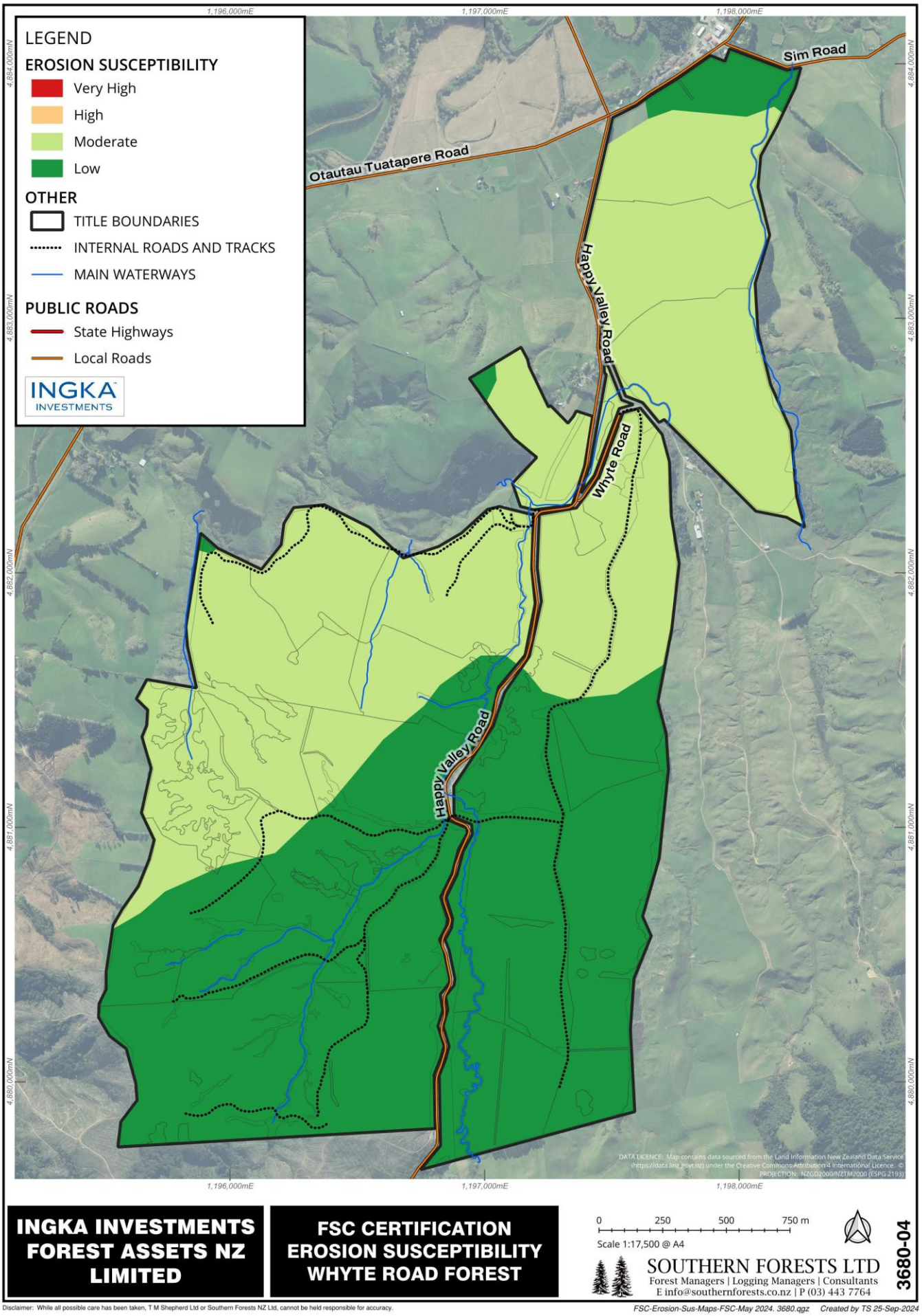
Koneburn Forest



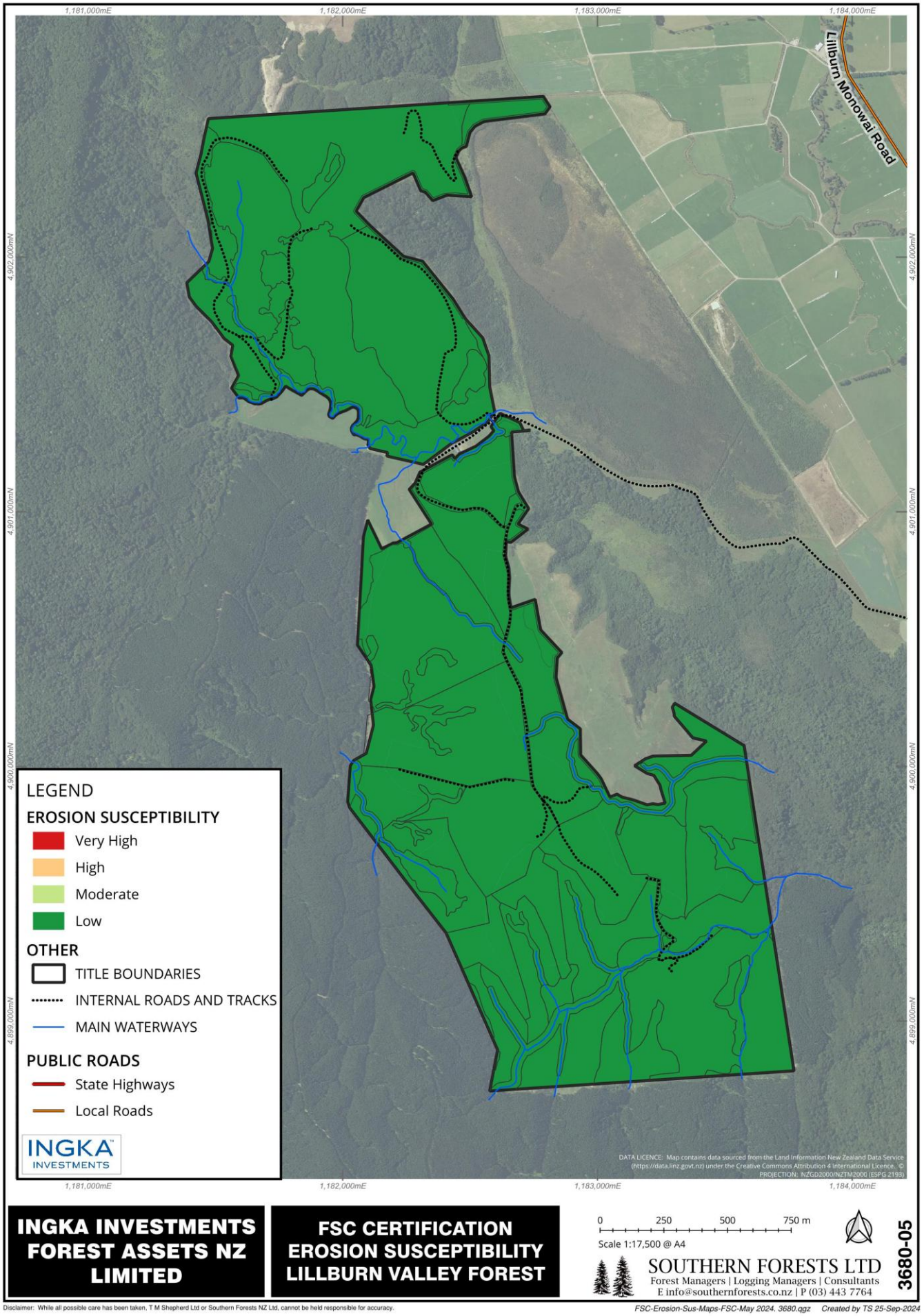
Beaumont Forest



Whyte Road Forest



Lillburn Forest



APPENDIX 6: Stakeholder contact and consultation guideline

Purpose

This Guideline is to define and document the processes required for stakeholder identification, engagement, contact and consultation, to demonstrate good business practice and ensure the maintenance of environmental certification.

Scope

This Guideline covers all operations associated with SFL management. It covers the interaction with local, regional, and national communities of interest. It affects staff and contractor training, pre-operation planning, post-operation monitoring and follow-up, liaison with other stakeholders and regulatory bodies.

Responsibilities

- SFL as Resource Managers are responsible for the creation of a stakeholder awareness culture, whereby stakeholders are accepted as part of the forestry community.
- Managers are responsible for planning of and budgeting for the stakeholder consultation processes.
- Managers are responsible for determining what issues are to be consulted on, what questions are to be asked, how the responses will be treated and how the outcome of the process will be communicated back to the stakeholders consulted.
- Managers are responsible for all issues relating to stakeholder issues (health checks, legal compliance etc).
- SFL are responsible for promoting the stakeholder engagement policy and implementing the Management Plan, training staff as required and ensuring that all policies and procedures are fully implemented.

SFL staff are responsible for managing the day-to-day stakeholder consultation and relationship issues. The complete process must be documented; diary notes photographs or dictated notes constitute documentation.

Operational staff are responsible for monitoring the operations that have been consulted on, in accordance with the Environmental Management System, the Environmental Code of Practice, and any resource consent conditions imposed. If there are any variations from the results expected, stakeholders must be informed.

Contractors are responsible for completing the work they are contracted to carry out. Contractors must be aware of the importance of stakeholders to the company business.

Procedure

Stakeholder consultation may be periodic or specific.

- Annual – Certification evaluation event, to all stakeholders
- Neighbor check before each fire season – to all neighbors, to the relevant Voluntary Rural Fire Force and to FENZ
- Notification to TLA about likely road usage by logging trucks
- Discussion with local communities about on-going operations in particular areas, especially around safety concerns
- Annual health checks will be offered to staff and contractors
- Fortnightly / Monthly – operational audits & feedback to contractors and relevant agencies

Specific consultations

Pre-operational – before each significant operation involving additional traffic or district impacts, staff will consider the affected and the interested stakeholders and notify them.

Resource consent consultation – with Regional or District Councils if consent conditions require it.

The issue and nature of the consultation process will be decided by SFL, and the format of the process agreed. Contacts will be prepared, and the consultation/notification carried out. Records will be kept. The result will be notified to the stakeholder group involved.

For informal consultation, staff will keep a diary note and raise the issue with the relevant manager if the matter has the potential to become significant.

Affected stakeholder:

Any person, group of persons or entity that is or is likely to be subject to the effects of the activities of a Management Unit. Examples include but are not restricted to (for example in the case of downstream landowners), persons, groups of persons or entities located in the neighborhood of the Management Unit. The following are examples of affected stakeholders:

- Local communities
- Indigenous Peoples
- Workers
- Forest dwellers
- Neighbours
- Downstream landowners
- Local processors
- Local businesses
- Tenure and use rights holders, including landowners
- Organizations authorized or known to act on behalf of affected stakeholders, for example social, recreational and environmental NGOs, Labour unions, etc.

Consultation:

The act of asking advice or opinion from other persons or parties, and of deliberating together over that advice or opinion. When consulting, the consulting person or persons must do so with an open mind and not have carried out any actions that would prevent the opinion or advice being actioned.

Free, Prior, and Informed Consent (FPIC):

A legal condition whereby a person or community can be said to have given consent to an action prior to its commencement, based upon a clear appreciation and understanding of the facts, implications and future consequences of that action, and the possession of all relevant facts at the time when consent is given. Free, prior and informed consent includes the right to grant, modify, withhold or withdraw approval.

Interested stakeholder:

Any person, group of persons, or entity that has shown an interest, or is known to have an interest, in the activities of a Management Unit. The following are examples of interested stakeholders.

- Conservation organizations, for example environmental NGOs
- Labour (rights) organizations, for example labour unions
- Human rights organizations, for example social NGOs
- Local development projects
- Local governments
- Central government departments functioning in the region
- FSC National Offices
- Experts on issues, for example High Conservation Values

Local communities:

Communities of any size that are in or adjacent to the Management Unit, and also those that are close enough to have a significant impact on the economy or the environmental values of the Management Unit or to have their economies, rights or environments significantly affected by the management activities or the biophysical aspects of the Management Unit.

Stakeholders:

Interested stakeholders are groups and individuals who have environmental, economic, social and/or cultural interests in the management of the defined forest area.

Affected stakeholders are individuals or groups directly impacted by the enterprise's activities.

Stakeholder Engagement Plan:

A plan or collection of plans, documents or other instruments that have been prepared by, or for, or are available to, the forest manager that demonstrates compliance with the requirements specified in the Standard for proactive engagement with stakeholders.

APPENDIX 7: Other relevant legislation in relation to the growing and harvesting of the tree crop are:

- **Accident Compensation Act 2001 (as outlined in Appendix 12)**
- Employment Relations Act 2000
- Animal Welfare Act 1999
- Biosecurity Act 1993.
- **Climate Change Response Act 2002. (as outlined in Appendix 11)**
- Conservation Act 1987.
- Crown Forest Assets Act 1989.
- Fencing Act 1978.
- Forests Act 1949.
- Fire and Emergency Services Act 2017.
- Forests Amendment Act 1993.
- Forestry Rights Registration Act 1983.
- Hazardous Substances and New Organisms Act 1996.
- **Health in Safety in at Work Act 2015 (as outlined in Appendix 9)**
- **Heritage New Zealand: Pouhere Taonga Act 2014 (as outlined in Appendix 8)**
- Injury Prevention, Rehabilitation and Compensation Act 2001.
- New Zealand Forest Accord.
- Noxious Plants Act 1978.
- Pesticides Act 1979.
- Reserves Act 1977.
- **Resource Management Act 1991. (as outlined in Appendix 10)**
- Soil Conservation and River Control Act 1971.
- Trespass Act 1980
- **Treaty of Waitangi Act 1975 (as outlined in Appendix 13)**

Forest owners can be held liable for breaches of these Acts and may be held responsible for damage to third party property.

APPENDIX 8: Heritage New Zealand Pouhere Taonga Act 2014

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.

If a site is discovered or suspected, protocols specified in Southern Forests Ltd EMS, and any others specifically developed in conjunction with Heritage NZ, archaeologists and Iwi or other stakeholders, will be observed and the necessary Archaeological Authorities obtained with Heritage NZ, and if necessary, the local Territorial Authority.

These responses may include, but are not limited to:

- Map and ground surveys to identify, mark and protect known heritage sites.
- Iwi consultation and surveys for unknown sites.
- Archaeological Authorities to modify sites if required.
- Accidental Discovery Protocols to stop work and engage experts if sites are discovered during operations.

	Historic Heritage	**Wahi Tapu**	**Maori Reservation land**
Wisp Hill Forest	No Historic places or areas that need protection	There are no wahi tapu or wahi tapu areas within the forest	No land has been set aside for Maori Reservations
Koneburn Forest	No Historic places or areas that need protection	There are no wahi tapu or wahi tapu areas within the forest	No land has been set aside for Maori Reservations.
Beaumont Forests	No Historic places or areas that need protection	There are no wahi tapu or wahi tapu areas within the forest	No land has been set aside for Maori Reservations
Whyte Road Forests	No Historic places or areas that need protection	There are no wahi tapu or wahi tapu areas within the forest	No land has been set aside for Maori Reservations
Lillburn Forest	No Historic places or areas that need protection	There are no wahi tapu or wahi tapu areas within the forest	No land has been set aside for Maori Reservations

APPENDIX 9: Health & safety at Work Act 2015

SFL management emphasises leadership and constant focus, including the strong message that health and safety is the number one priority ahead of any other business driver. The SFL Health and Safety Management Plan (ForestSafe) will be used for all contractors working in the Ingka Estate and has a particular focus on the following:

- Contractor selection process including emphasis on:
    - safety systems and track record
    - worker skills and training
    - equipment types and standard
    - Work planning
    - Contractor induction
    - Monitoring, including random and reasonable cause drug testing, safe work practices and PPE
    - Incident investigation and reporting, including investing in software, training, and processes development to enable good transparency on lag and lead indicators
- Regular (annual) review and update of the critical risks as identified within the estate data sets and from Industry indicators. Such a review shall focus on incidents that have caused harm and/or loss, any known cause factors and mitigations and revised controls.

In addition, SFL use another industry system called ThinkSafe, which has been adopted by Ingka to monitor daily operations and activity on all Ingka properties.

APPENDIX10: The Resource Management Act 1991 (RMA) and The National Environmental Standard for Commercial Forestry (NES-CF)

The Resource Management Act 1991 (RMA)

The RMA sets up a resource management system that promotes the sustainable management of natural and physical resources and is now the principal statute for the management of land, water, soil, and other resources in New Zealand. The RMA effectively delegates much of the rule development and enforcement to local government.

The National Environmental Standard for Commercial Forestry (NES-CF)

A new, nationally consistent set of regulations for plantation forestry has been established under the Resource Management Act. From 1 May 2018, the NES-CF introduced a whole new rule hierarchy that applies the same rule set uniformly across most forestry operations in all parts of New Zealand. Most forest operations will come under the legal framework of this RMA instrument.

The core underpinning the structure of the NES-CF is a rule hierarchy linked to the erosion susceptibility of the lands upon which forestry operations are to be conducted. A national spatial map, the "Erosion Susceptibility Classification (ESC)" classifies all New Zealand into a series of four classes of erosion susceptibility from low (green) to very high (red). The rules hierarchy, i.e., whether consents are needed and the degree to which Councils can apply discretion to the conditions attached to a consent, is then tied closely to the recognised erosion susceptibility of the lands involved and the risks created by the operations.

The NES-PF was amended to the National Environmental Standards for Commercial Forestry (NES-CF) and came into force on 3 November 2023. New activities need to comply with the NES-CF. Previously, the National Environmental Standards for Plantation Forestry (NES-PF) only managed forests planted for harvest. Since the NES-PF was introduced in 2018, there has been an increase in carbon forests, which were not managed by the NES-PF. This follows a rise in the carbon price and subsequent farm conversions to forestry. It is also important that all forests are well-managed to ensure any adverse effects are managed. For example, assessing wilding conifer risk, establishing setbacks from roads, dwellings, and waterways, and managing harvests

APPENDIX 11: Climate Change Response Act 2002 – The Emissions Trading Scheme (ETS)

Forests in New Zealand are governed by rules related to New Zealand's Climate Change Response Act (CCRA) to reduce the nation's carbon footprint and contribution to associated climate change.

Approx. 73 hectares of Wisp Hill Forest were existing forest on 31st December 1989, have been harvested and re-established by the previous owners, and are now considered second rotation forest. The last area harvested prior to being purchased by Ingka, comprising approximately 15 ha, was replanted in Pinus radiata in winter 2023. Some of the re-establishment completed by previous owners is poor and has been cleared and replanted in 2023.

The obligation on landowners is that pre-1990 forest land must remain in forest indefinitely. Otherwise, these stands will be subject to a deforestation tax equivalent to the tonnes of CO^2 projected to be released from the decomposition of the forest post-harvest. This tax is only payable if the forest is not replanted or, if left to regenerate naturally, does not achieve the regulated heights or stocking densities.

All new plantings within the Estate will qualify post-1989 forest land will be entered into the NZ Emissions Trading Scheme.

APPENDIX 12: Accident Compensation Act 2001

This is a government regulated scheme by where employers and companies are required to contribute financially to provide fair and sustainable management for personal injury that has, as its overriding goals, minimising both the overall incidence of injury in the community, and the impact of injury on the community, including economic, social, and personal costs.

APPENDIX 13: Treaty of Waitangi

There are three main principles under the Treaty of Waitangi, being partnership, participation, and protection. SFL will adhere to these principles and therefore will consult and partner with tangata whenua in relation to forestry operations, where appropriate.