Southland Estate
Forest Management Plan

For the period 2018 / 2020

This is a working document, and as such will be updated periodically as we continually evaluate, develop and refine our forest management plans and objectives.

Introduction

Wood has many different uses, from firewood to construction timber, to newspapers and tissue paper, from furniture to clothing. Wood fibre is extremely versatile and is produced using carbon dioxide and the energy of the sun. Wood from well managed forests is a renewable resource which can meet the economic, social and cultural needs of our society without compromising the environment.

Southland Estate's objective is to grow wood for further processing in New Zealand or overseas and obtain an economic return on investment. Southland Estate seeks to achieve this through the growing of suitable species with wood characteristics which meet the demand of the market. The trees are established, protected and tended as required to meet those demands.

Principles and Criteria

The estate is to be managed under a Forest Stewardship Council (FSC) Certification Scheme.

The Forest Owners are committed to the FSC Principles, Criteria and standards of good forest management. These standards include ecological, social and economic parameters.

Once FSC Certification is achieved, the Manager will be able to market the forest log products as certified wood for input into domestic processor markets and international log markets where some are seeking Certified wood inputs for manufacture of certifiable end-use products to international consumer markets.

Maintenance of the Certified status is managed through the Manager's Environmental Management System (EMS) and associated documents, I.T. based support tools and by a process of internal and independent third party external audit undertaken at least annually.

About the Plan

This plan is a broad document defining the management structures and vehicles in place to manage an aggregation of individual forests subject to different ownership structures or relationships. Each forest or group of forests have its own detailed management plan which describes basic but specific management details.

This document provides a summary of the forest management plan for the forests and contains:

- Ownership, management and management planning structure;
- Management objectives;
- A description of the land and forest resources;
- Environmental safeguards;
- Identification and protection of rare, threatened and endangered species;
- Management regimes and harvest planning;
- Forest Health;
- Management of reserve areas;

- Maps showing plantation area, legal boundaries and protected areas;
- Provisions for monitoring and protection.

Management and Ownership Structure

The estate is owned by Southland Estate Limited, which is wholly owned by ANZFOF2 NZ Pty Ltd, situated at Level 23, 141 Walker Street, North Sydney, 2060, Australia

At the time of writing all the estate was held under forestry rights. However, the owner is currently applying to the New Zealand Overseas Investment Office (OIO) to purchase the land under the forest.

The estate is made up of a number of forests known as:

- Fox
- Homestead
- Old Shed
- Tyneholm
- Woodslea

Southland Estate will protect any resource and tenure rights of tangata whenua.

Southland Estate have appointed the Manager as "Property Managers" to manage day to day operational activities and manage the estate in general to standards required to maintain FSC.

The Manager operates nationally with a regional office in Southland. The current total number of staff across the 5 regional offices is 26. The people responsible for enacting this plan are:

James Treadwell - CEO
Shaun Cawood - GM Support Services
Reece McKenzie - Forest Manager
Maureen MacLean - National EH&S co-ordinator
Erica Black - GIS Manager

Management Objectives

Economic and Social

The forests are managed to provide environmental benefits, including:

- Enhanced water quality;
- Soil stabilisation and conservation;
- A buffer against flooding during storms;
- Shading waterways for aquatic life;
- Enhance wildlife and plant habitat leading to increased biodiversity;
- A reduction in greenhouse gases;
- Providing economic and social benefits to the community.

The forests are all managed to the Managers environmental standards manual.

Management

The Manager is committed to ensuring the management of the forest is sustainable, achieves economic sustainability and provides the best possible returns for the forest owner. In addition, the Manager will ensure all forests retain the capacity to do the above while meeting a range of environmental, social, and cultural perspectives.

The estate will be managed to:

- Ensure the estate is a renewable and sustainable resource;
- Grow trees and produce logs for wood products in New Zealand and overseas;
- Ensure productivity of the land does not decline;
- Ensure environmental and social values are identified and maintained, and undertaking operations to minimise impacts on the environment and the community.
- Ensure historic sites are identified and protected;
- Harvest trees as close as possible to their economic optimum age and achieve the best possible financial returns to the owners;
- Replant following harvesting;
- Meet all statutory requirements, for example the Resource Management Act (1991), the National Environmental Standards for Plantation Forestry (2017), the NZ Forest Accord (1991) and the Principles for Commercial Plantation Forest Management in NZ (1995) and comply with forest industry best practice;
- A safe and healthy workplace free of workplace injuries;
- Act as a good corporate citizen and neighbour;
- Ensure all forest management practices are consistent with the principles of the Forest Stewardship Council;
- Identify and protect areas of significant ecological and scientific value within the forests and put in places processes to protect and enhance identified values;
- Ensure forest sustainably and minimise adverse effects of forest operations on soil and water values;

- Minimise impact of operations on archaeological and cultural sites and ensure compliance with the Heritage NZ Act 2014;
- Minimise impact of operations on amenity values (visual, noise and air effects) and neighbouring properties;
- Use chemicals responsibly and seek to minimise the use of chemicals in our operations as far as practical;
- 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 the company Environmental Management System;
- Monitor, research and seek new ways to minimise impacts of forestry operations on the environment, and maximise environmental benefits of forests;
- Recognise the recreational value of the forest estate to local communities and the general public and proactively manage public access taking into account safety of people, environmental considerations and forestry operations;
- Identify areas within our estate which meet the FSC definition of High Conservation Value Forests and manage these in accordance with FSC requirements.
- Ensure there is no conflict with written leases and right of ways as per the individual agreements.

Southland Estate and the Manager are committed to ensure the management of the forest is sustainable, from an environmental, social, cultural and economic perspective. These perspectives underpin the FSC management culture.

1. Environmental perspective

Includes steps to identify rare, threatened and endangered species where such presence is a possibility, protection of reserve areas, waterways and the control of pests and weeds.

2. Social perspective

Includes ensuring contractors and their workers adhere to health and safety standards, consultation with neighbours and stakeholders in respect of operations on the forest occur. All staff have the right to be a member of a union if they wish.

3. Cultural perspective

Includes consultation with the appropriate iwi to ensure culturally significant resources, land, historic and archaeological sites are identified and appropriately managed.

Southland Estate will be managed to protect any resource and tenure rights of tangata whenua.

Tangata whenua are being identified for each area. However, at time of writing no cultural important areas had been identified.

4. Economic perspective

Refers to the selection of a species, ensuring management and harvesting regimes, provide a reasonable return on investment while minimising the risks of investment.

External Agreements

Through membership of the New Zealand Forest Owners Association, the Manager is bound by the requirements of the New Zealand Forest Accord (1991) and the Principles for Commercial Plantation Forest Management in New Zealand (1995).

The Forest Accord protects remaining indigenous forest remnants within the plantation forest which meet minimum size and quality criteria from clearance and conversion to plantation forest. All New Zealand Forest Accord vegetation within Southland Estate is identified in a Geographic Information System (GIS) and is protected.

The Principles for Commercial Plantation Forest Management in New Zealand are complementary to the New Zealand Forest Accord and cover a range of broader principles to promote environmental excellence in plantation forest management, and the protection, preservation and sustainable management of native forests.

The Manager encourages all staff to join the New Zealand Institute of Forestry which requires and annual agreement to maintain the code of conduct and provides professional development opportunities for members.

Implementation

The forest management objectives described above are implemented by the Manager. The Manager applies best forestry management practice within a quality management framework to plan for and deliver the required forest management objectives.

The Quality management framework includes:

- A forest management system, ensuring the forest management planning is up to date and operations are scheduled and undertaken according to the plan.
- The Environmental standards manual, ensuring operations follow the manual, ensuring high standards of environmental management is integrated into all areas of forest and operational planning and management.
- The Health and Safety manual to ensure all operations are managed safely with the goal of zero serious harm.
- FSC environmental certification, ensuring management principles and practice adhere to internationally recognised and adopted standards for environmental management.

Land Description

Location

The Southland Estate currently extends over one region and one district. A summary table is presented below.

Region	Southland
District	Southland
Forest	Fox
	Homestead
	Old Shed
	Tyneholm
	Woodslea

Topography

All forests are located in the Southland. Southland comprises five broad, readily identifiable landscape types:

- Ranges
- Plains and Lowlands
- High Country
- Hill Country
- Coast.

All Southland Estate forests located in the Southland are located on land being described as Hill Country

Soils

The soils of Southland Estate are dominated by brown soils, in particular Allophanic Brown soil and Firm Brown soil. These soil types have a relatively stable topsoil with swell-developed polyhedral and spheroidal structure. These soils have low to moderate base saturation. Allophanic Brown soil has a horizon which is dominated by allophanic material while Firm Brown soils have a strong, apedal subsurface horizon (Landcare Research).

The uses of land restricted by the National Environmental Stands – Plantation Forestry (NES – PF) are as follows:

<u>Soil Disturbance (Earthworks)</u>

Subpart 3 (24) – Restricted Discretionany Activity – If earth works are within the erosion suseptabilty classes - orange zone above 25˚or in the red zone where more than 500m^3 has been deposited.

Subpart 3 (24) - Permitted Activity – Maintenance and upgrades in any erosion susceptibility classification zone if the volume moved is less than 5000m^3 within any 3-month period

Vegetation Clearance

Subpart 6 (63) – Restricted Discretionary Activity – In any red zone erosion suseptablity classification with a Land Use Capability Class 8e.

Subpart 9 (93) – Permited Activity – Indigenous vegetation when it has come up under plantation, within failed areas of plantation, in an area that has been harvested in the last 5 years, is overgrowing a track and is less than 1ha.

Climate

Southland climate is characterised by the cool coastal breezes, and absence of the shelter from the unsettles weather that moves over the sea from the south and southwest. Hot north-westerly conditions in summer can occasionally bring high temperatures, while winters are cold with infrequent snowfall and frequent frost. South-westerly winds prevail throughout the Southland region. (All the following climate information has been collated for Invercargill area from the NIWA website).

Temperature

Mean daily maximum: January 18.7°C, July 9.5°C
Mean temperature: 10°C
Mean daily minimum: January 9.6°C, July 1°C

Sunshine

Average bright sunshine: 1682.2 hours annually.

Rainfall

Average wet days: 1mm or more, 160 days per annum
Mean annual rainfall: 1149mm (Invercargill) (monthly range from 115mm in January to 76mm in August)

Frost

Average days of frost: 95 per annum

Stakeholders

The Manager makes every attempt to operate with the communities which neighbour Southland Estate. Community relations are an important focus for the Manager who is committed to being ethically and socially responsible, while meeting its business needs.

The Manager strives to actively engage with stakeholders in the many communities in which we operate, and particularly those directly or indirectly affected by our operations. Prior to commencing harvesting in a new area, the Manager engages with representatives of the local community to keep them informed of plans and develop mitigation strategies for identified concerns. Typically, this includes forest neighbours, residents of any rural access roads affected by logging traffic and tangata whenua.

Social Impact Assessment

The Manager undertakes a social impact assessment annually. This assessment is available to public on request.

The Manager has developed a Social Impact Assessment (SIA) Procedure to recognise and manage decisions which may have significant impact on the local community. Key staff receive training in SIA techniques.

Key results from the SIA are:

(A) Regional development.

The Manager will remain alert to any adverse impacts from its operations and deal with them accordingly, either individually or as part of an industry grouping. The major impacts are mostly felt by neighbours. The Manager has a list of neighbours and refreshes the list before the start of the Fire Season each year.

Impacts on neighbours are measured by records of compliments & complaints maintained in the Southland office, records of cooperation on boundary spraying, summer grazing run-off etc.

(B) Optimal Use.

Good environmental stewardship means the existing indigenous vegetation enclaves have been assessed, ranked and are protected. Additional areas such as riverine gravels & limestone outcrops are also protected for their environmental values.

(C) Illegal Activities.

No illegal logging takes place.

The neighbours referred to in (A) above maintain a good watch over SEL lands, mainly to protect their own stock from poachers who may hunt in the SEL blocks. The police are also available to assist if required. The Manager employee cameras within the forest to monitor illegal use.

(D) Skills Development.

Training plans for staff and contractors will be established each year.

Contractors selected for specific tasks will be selected on the basis of specific criteria including proven skills for the task, training achievements and experience.

The Manager will maintain and be part of industry initiatives to develop a motivated, drug free and fully skilled workforce for the industry's needs in the near future.

(E) Health & Safety.

The Manager has a documented H&S Policy.

A formal induction to each forest block and work site is a prerequisite of each operation.

The Manager maintains an EH&S incident database and compares itself against the overall industry LTIR figures. Near hits are reported, as are incidents. Significant near hits will be investigated by the contractor and company supervisor in the spirit of a "no blame" culture. Records are kept and analysed for trends.

Reports on accidents and investigations from other companies are circulated to the crew. Ensuring public safety is the rationale behind strict entry controls on SEL forests. There are no staff available to patrol on a regular basis and so free public entry is not an option.

(F) Worker Rights

Crew members have the opportunity to belong to a Union.

The Manager ensures any principal contractors used on the estate comply with legislation for minimum wage rates, holidays, superannuation and sick leave. The Manager does not discourage staff or contractors from joining unions should they wish to do so.

Tangata Whenua

Southland Estate will protect any resource and tenure rights of tangata whenua.

Neighbours

All neighbours are rural dwellers and are involved in a range of rural economic activities from farming, tourism, horticulture, agriculture or other small businesses. Corporate neighbours are usually other forest owners.

Neighbour contact details are maintained through databases. Some or all of these parties will be consulted when operations are proposed in forest areas adjacent to their boundaries.

Regulations

In order to minimise the risk to forest owners, managers and contractors, it is important relevant legislation and agreements are identified and appropriate measures put in place to ensure breaches of legislation are avoided.

The Manager ensures it keeps up with changes in legislations by reviewing the monthly legal update provided by Simpson Gierson and published in the New Zealand Institute of Forestry newsletter, as well as reviewing any relevant updates sent out by the Forest Owners Association.

All New Zealand legislation is available at http://legislation.govt.nz. Important legislation is in hardcopy within the Managers office and this is reviewed and updated annually as required.

The following legislation and agreements summarise key regulatory and voluntary controls which currently apply to forest operations in the forest.

Resource Management Act

The estate is subject to the provisions of the Resource Management Act (RMA) 1991. The RMA is a resource management system which 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.

Under the RMA, each council has its own plans and rules, which must be adhered to.

The District Councils look after land management issues such as land use, landscapes and biodiversity, whilst the Regional Council deal with soil conservation, water quality issues, discharges to the air, water and land and the coastal marine environment.

Heritage New Zealand Act

Under the 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. Where such circumstances might exist, an "Authority to Modify or Destroy" will be sought from Historic Places Trust (HPT). Such authorities are similar in function to a resource consent and if granted, normally come with conditions which must be met.

Records of archaeological and historical places are maintained in the New Zealand Archaeological Association Site Recording Scheme run by the HPT. There is a searchable register maintained online on the HPT website. To search in this register, follow the link below:

http://www.historic.org.nz/en/TheRegister/RegisterSearch.aspx

Registered historic sites are also often included in schedules of places and sites of significance in District Plans along with sites of cultural significance.

If a site is found or suspected on any block, the protocols specified in the Managers environmental standards manual, and any others specifically developed in conjunction with HPT and iwi or other stakeholders must be observed.

Resource Consents

There are currently no Resource Consents held for the estate.

The Emissions Trade Scheme

Forests in New Zealand are governed by rules related to New Zealand's commitments to reduce greenhouse gas emissions.

Any existing forest originally planted prior to 1st January 1990 will be required to cover all their emissions if the forest is deforested. Deforestation occurs if the forest is not replanted, is left to regenerate naturally or, does not achieve the regulated heights and stocking densities as required under the Climate Change Response Act 2002.

All post 1989 forest in Southland Estate is not registered in the ETS.

Southland Estate owns no pre-1990 NZUs but does own pre-1990 forest.

National Environmental Standards for Plantation Forestry

The estate is subject to the provisions of the National Environmental Standards for Plantation Forestry (NES – PF). The NES - PF is a resource management system, under the RMA that provides a nationally consistent set of standards to manage the environmental effects of plantation forestry activities.

Other Relevant Legislation

- Animal Welfare Act 1999.
- Biosecurity Act 1993.
- Climate Change Response Act 2002.
- Conservation Act 1987.
- Fencing Act 1978.
- Forests Act 1949.
- Fire and Emergency New Zealand Act 2017.
- Forests Amendment Act 1993.
- Forestry Rights Registration Act 1983.
- Hazardous Substances and New Organisms Act 1996.
- Health & Safety at Work Act 2015.
- Injury Prevention, Rehabilitation and Compensation Act 2001.
- New Zealand Forest Accord.
- Noxious Plants Act 1978.
- Pesticides Act 1979.
- Reserves Act 1977.
- Soil Conservation and River Control Act 1971.
- Trespass Act 1980.

Additional relevant legislation is attached as an appendix.

Environmental Code of Practice

All operations carried out on the property must be undertaken to the standards specified in the New Zealand Environmental Code of Practice for Plantation Forestry and the New Zealand Code of Practice for Forest Engineering.

Health and Safety

All operations managed by the Manager are subject to the Managers Health and Safety management programme. This programme includes active accident prevention programmes, training, injury management and drug and alcohol testing.

Health and Safety statistics are reported quarterly to Southland Estate.

Responsibilities and authorities

All staff are responsible for ensuring operations under their immediate control are planned and carried out to meet relevant requirements of any Resource Consent or Permitted Activity Conditions.

Staff are also required to ensure the Managers crews and/or contractors carrying out these operations are fully aware of these requirements and the steps required to comply.

Any breach of these requirements is deemed a Significant Environmental Event and shall be dealt with as such.

Environmental Policy and Practices

Environmental policy and practices are an integral part of every operation which takes place on the forest. The Manager maintains an Environmental Policy Statement signed by the managing director and followed by all staff. Regular monitoring of key environmental parameters will be undertaken where necessary to ensure the impact on the forest environment from events such as wind storms, flooding and fire, or of agents such as pests, diseases, and weeds are minimised.

The Environmental Manual assists the Manager through the process of identifying and managing the Environmental Impact of all operations. To this end all operations are guided by a Standard Operating Procedure (SoP) to guide the AEE for an operation. All operations are then monitored and reported on appropriately.

The management of the forest recognises the importance of the natural and social environment for the future of its business. The people employed in the forest and processing plants, the neighbouring land owners, the appropriate iwi and the community at large are all recognised as stakeholders.

All activities within the estate are subject to the Managers environmental standards.

Environmental Goals

1. Achieve a greater understanding from all persons working within the forest of their environmental responsibilities.
2. Establish working relationships with all councils.
3. Establish relationships with iwi, neighbours, and other stakeholders.
4. Promote and undertake sound environmental stewardship of land and other natural resources on, or adjacent to, this land.

Environmental Standards Manual

The Managers environmental standards manual sets out the expectations in regard to managing the environment during forest operations. The manual is designed to communicate expectations for environmentally sound forestry operations. Included at the back of the manual are SoPs, forms, policies and maps.

SoPs guide all operations and are continuously reviewed and updated.

Assessment of environmental risks due to operations are covered within the manual along with other specific form related to harvest operations.

The manual covers hazardous substances management and clearly outlines the expectations the Manager has of all staff, contractors and suppliers in relation to hazardous substance management. Hazardous materials which may be used within Southland Estate are:

- Herbicides

- Pesticides
- Fuels
- Oil
- Fire retardants
- Surfactants
- Paint

The Manager is committed to reducing the use of hazardous substances. All aspects of chemical use are reported annually.

The Environment and Forestry Activities

Forestry activities encompassing silvicultural and harvesting operations can have both beneficial and adverse impacts on the environment depending on the quality of environmental and operational 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 macro-invertebrate life;
- provide habitat for rare, threatened and endangered native species;
- sequester carbon to combat climate change; and
- provide recreational, economic and social benefits to the community.

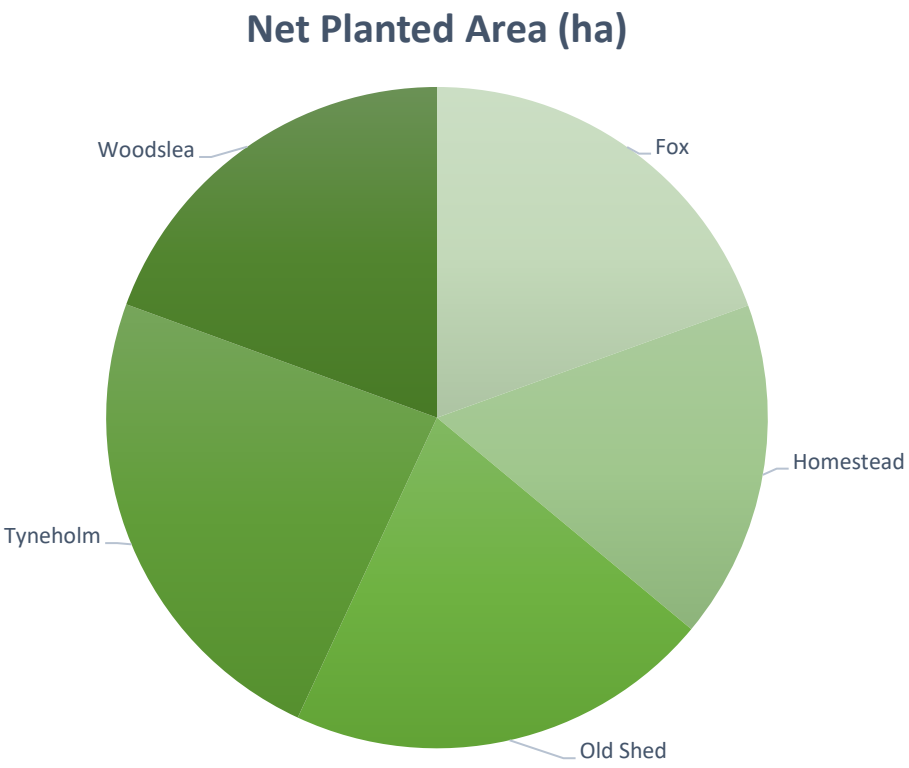
On the other hand, poorly managed forestry activities can have harmful impacts. The Manager aims to identify the potential negative impacts and to implement environmental safeguards to prevent or to minimise the negative impact from its operations.

Estate Description

Forest Area

Southland Estate is made up of 5 forests with a total Gross area of 630.3 hectares. The table below shows the breakdown of the estate by forest and type. Southland Estate is currently undergoing production thinning operations, therefore the thinned area noted in the table below is changing daily.

Forest	Gross area (ha)	Net planted area (ha) *All species*	Net productive area (ha) *P.radiata*	Area thinned (ha)	Area pruned (ha)	FSC RSAA (ha)	RSAA (% of net productive area)	RSAA (% per Ecological District)
Fox	127.3	100.2	100.2	10.7	100.2			
Homestead	109.4	85.1	85.1	54.8	85.1			
Old Shed	139.1	107.3	107.3	67.4	107.3			
Tyneholm	132.3	121.6	121.6	33.1	121.6			
Woodslea	122.2	99.9	99.9	66.0	99.9			



Species

Southland Estate is completely *Pinus radiata*. All radiata crops are managed either on a pruned, framing or untended regime. It is intended to replant all areas after harvest with improved genetics.

Age class

Southland Estate is predominately a mid-rotation forest. The following table shows the breakdown of the estate by age class.

Tree Age (years)	Area (ha)
Fallow	0
1-5	0
6-10	13.2
11-15	0
16-20	500.9
21-25	0
26-30	0
30+	0

Reserve Areas

Indigenous biodiversity management within the forests is an essential component of everyday forest management. Although exotic forests can provide a level of biodiversity, reserve areas are usually the source of most indigenous biodiversity. Rare and threatened species can also be found associated with exotic forests and require special attention for management.

All reserves are managed as per the reserves policy.

The Manager contracts Wildland Ltd to identify high conservation areas and reserves. As forests have been added to the estate the Manager has identified reserves within the new forests. Wildland's will be contracted every two years to check and monitor the high reserve and high conservation areas and every five years for the remaining reserve areas.

The Southland Estate consists of approximately 73 hectares of reserves. All reserve areas have been mapped and recorded within the Managers GIS.

High value conservation areas

There have been no potential high conservation areas found within the estate following the Wildlands Ltd desktop assessment.

High and moderately high reserves

There are 5 areas which have been identified as high (4 areas) and moderately high (1 area) reserve areas, through a desktop assessment.
All these reserves have been mapped and identified and recorded on the GIS. The Manager will protect these reserves. Wildlands Ltd will monitor the reserves on a two-year cycle for pests, weed and rare and threatened species.

Moderate reserves

All these reserves have been mapped and identified and recorded on the GIS. The Manager will protect these reserves; however, the reserves can be crossed for operational purposes if this is the best environmental result. Any crossing of the reserve will require a management plan. Wildlands Ltd will monitor the reserves on a two-year cycle for pests, weed and rare and threatened species.

Low reserves

All these reserves have been mapped and identified and recorded on the GIS. The Manager will protect these reserves; however, the reserves can be crossed for operational purposes if this is the best environmental result. Any crossing of the reserve will require a management plan. Wildlands Ltd will monitor the reserves on a five-year cycle for pests, weed and rare and threatened species.

Rare and threatened species

All contractors and staff must be trained in and given the identification form (also in Environmental Manual) of known rare and threatened species. If any species are found the Manager is to be notified immediately and a species sighting form filled in.

Protection requirements are assessed at the time of re-establishment where additions to riparian or buffering setbacks are often recommended.

In the case of fauna, records of sighting and locations are stored within Geomaster and GIS.

Whenever an operation is planned Geomaster and GIS must be checked to see if there is any record of rare and threatened species within the operational area or nearby. If there have been observations of any species, then all contractors and their workers must be made aware of this and a management plan to protect the species prepared as part of the operational planning. If required, this plan will be prepared in association with local experts.

Establishment and Silviculture

All forest operations are planned to ensure the crop achieves maximum growth and is of high quality. Typical operations within Southland Estate include:

- land preparation
- planting
- weed control
- pest and disease control
- fire protection
- pruning
- thinning

In addition to the above, the Manager follows a maintenance plan which includes road, track, fence and water way maintenance.

All operations must follow the standards set within the Managers environmental manual.

Establishment

No land under native vegetation will be converted into plantations as per the New Zealand Forest Accord.

All harvested areas will be replanted the winter following the first spring after harvest. Establishment may include:

- Raking of slash
- Spot mounding
- Aerial desiccation spraying
- Planting of genetically improved seedlings (generally *Pinus radiata* at 1000 - 1250 stems per hectare)
- Animal pest control
- Fertilising
- Aerial or spot releasing of weed competition.

Prior to any establishment a review of the area will be conducted to identify if there are any risks to rare or threatened species of flora or fauna. At the same time consideration will be made of riparian buffer sizes and hard to harvest areas.

All establishment sites will be reviewed to ensure reserves are maintained, there is a mix of age classes throughout Southland Estate, and correct genotypes are used.

Silviculture

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

There are two main tending regimes within Southland Estate, pruned and framing. Some areas are left untended as a protection crop or for other reasons, however this is not the norm.

Future regimes will depend on Southland Estate's and the Managers assessment of market opportunities, site factors (including slope) and the tree sticks available.

Thinning

Thinning of stands is undertaken, generally between six to nine years of age, to provide the 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. Most thinning operations leave the thinned stems on the forest floor to decompose where production thinning is impractical or uneconomic.

Regimes

PRUNED

Year	Operation	Stems per ha	Details
0	Establish	1000 - 1250	Improved genetics
5 - 6	Prune 0-2.2m	375	Minimum green crown must be 3.0m
7 - 8	Prune 2.2-4.2m	375	Minimum green crown must be 3.5m
7 - 8	Thin to waste	650 - 700	Thin dominant not pruned stems
9 - 10	Prune 4.2-6m	350 - 375	Minimum green crown must be 4m
9 - 10	Thin to waste	350 - 375	Thin all non pruned stems to waste when mean crop height 11m
25-30	Clearfell		

FRAMING

Year	Operation	Stems per ha	Details
0	Establish	1000 - 1250	Improved genetics
8 - 10	Thin to waste	500-60	Thin all non dominant stems to waste when mean crop height 11m
25-30	Clearfell		

Forest Health

Forest health inspections are undertaken annually by either an independent professional assessor or through the New Zealand Forest Owners Association Forest Health Scheme. During forest visits the Manager will complete their own health assessments.

Inventory, mapping and forest records

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. The Manager undertakes audits of all inventory to ensure consistency in approach and accuracy.

The following inventory is applied to Southland Estate

- pre-assessment;
- quality control;
- mid-rotation inventory; and
- pre-harvest inventory.

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 is low with a minimum of five plots per stand and data is collected from six - ten trees per plot. Data collected is then used to calculate a man-day target and hence a contract rate per hectare. Contract rates are often set by tender or negotiation, reducing the need to pre-assess every block.

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

Quality Control

Quality control is carried out during and after a tending operation. The aims of the quality control are to:

- Collect sufficient data to monitor a contractor's performance and correct performance if necessary.
- Collect quantitative data to provide reliable estimates of the crop.
- Provide data as input for growth modelling.

Sampling intensity is a minimum of five plots per stand or one plot per 2 hectares with every fourth plot being a full measurement plot. This provides the data for the current crop status and future growth modelling.

Data is summarised by Forest/Compartment/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 simulation modelling.

Quality control plots are completed at the stand level at the completion of each tending operation.

Mid-rotation inventory

The principal aim for the mid-rotation inventory is to collect stand data for inputs into estate modelling and long-term harvest 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 a low intensity inventory, but with full log type cruising. This will enable summary to stand level, and more accurate yield projections for the estate model. Mid-rotation inventory is scheduled for between 12 and 16 years of age.

Pre-harvest inventory

The principal 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 as in mid-crop inventory.

Post-harvest reconciliation

After harvest reconciliation of data of the harvest area is undertaken to help improve records and to ensure harvesting has met the standards expected.

Mapping

Updating forest maps is required from time to time as the forest changes. The work involves:

- updating topographic detail;
- remapping forest stand boundaries from aerial photography;
- updating stand and forest attributes such as roads, landings, protected ecosystems and archaeological sites; and
- defining legal boundaries.

The data is kept and managed in the Managers GIS system.

Stands are remapped from new aerial photographs around the age of four, when the trees are visible, to accurately determine boundaries. They are also remapped within 2 years of harvest to assist with harvest planning.

Forest records

Forest records are essential to provide a historic perspective to 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;
- Costs incurred for each operation;
- Protected ecosystems attributes;
- Threatened species records;
- Archaeological and Wai Tapu sites and other potential features; and
- Chemicals used.

The Manager maintains forest records in Geomaster.

Harvesting

Currently harvesting is scheduled by age class. Clearfell Harvesting is due to start in 2025

Harvest Planning

A comprehensive planning process determines how and when to harvest. Planning for harvesting of the estate is being developed from a long term (up to 80 years) woodflow plan, which is then refined down to a more detailed five-year plan, and then translated into annual harvest plans. This process involves balancing a range of factors such as predicted forest growth, customer requirements (grade and volume), harvesting capacity, access, third party ownership requirements, clearfall catchment limits and other environmental constraints.

All harvest planning and operations will follow the environmental standards set out in the environmental manual.

Planning is essential to ensure roading infrastructure is developed in a timely manner and any resource consents and surveys are completed on time.

Harvest planning must consider:

- Slope – determining what equipment can be used.
- The Resource Management Act, the Historic Places Act and any other relevant legislation.
- Safety - how to ensure the operation is completed in a safe and legal manner.
- Soil and water - how to avoid, remedy or mitigate impacts on soil and water.
- Ecosystems - potential rare or threatened species and how to manage, managing in accordance with the New Zealand Forest Accord (1990) and the Code of Environmental Practice (ECoP).

- Possible sites of cultural, architectural, historical, ecological economic or religious significance to tangata whenua. Tangata when are to be consulted in regard to all planned harvest sites.
- Financial - plan the operation to ensure it meets current market demand and provides a return on investment.
- Offsite impacts - plan to minimise any adverse impacts on people or the environment outside of the forest.

Harvesting Operations

All operations will be undertaken by harvest and transport contractors who have been selected for their quality of service and understanding of the Managers environmental standards, associated SoP's and health and safety standards, especially the Accidental Discovery Protocol.

All operations will be supervised by the Manager, who has the right to stop the operation at any time if they feel the operation is having or has the potential to have an adverse impact on safety or the environment. All operations will be regularly audited as per the Managers health and safety and environmental systems.

Harvesting Methods

The Manager uses three basic criteria to ensure the right harvesting methods are employed:

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

The Manager is committed to adopting harvesting techniques and technology which minimise the impact on the environment and reduce the risk of accidents and injuries. To meet these objectives, Southland Estate has been divided into four terrain types and the appropriate machinery configurations are used on each type, as follows:

1. Flat (0-10 degrees) and Flat-rolling (10-20 degrees). A mechanical harvester fells the tree and removes most of the branches leaving the residues on the cutover land. Logs are typically removed with rubber- tyred skidders fitted with mechanised grapples.
2. Rolling steep (20-32 degrees) - This includes land with areas which are unable to be harvested easily with rubber tyred skidders and therefore require tracked machines either to provide tracks on which rubber tyred skidders can work, or to actually extract the stems. In this type of extraction, motor manual (chainsaw) clearfelling is most likely to be used, and excavators fitted with logging grapples are sometimes used to "shovel" full length stems to points from which the extraction machines are able to work safely.
3. Steep short (32 degrees or more, but less than 500m haul distance). This country is too steep for skidders or tracked machines to work safely and consequently

haulers are used in this operation. The predominant hauler used is the "swing yarder". This is a hauler with a short tower, and it has the ability to work close to the edge of the slope, swinging the stems to one side of the machine before they are moved to a skid site (flat open areas within the forest). The swing yarder is a flexible machine that can be moved and set up relatively easily and can use a variety of harvesting techniques to suit any given situation or difficulty factor.

4. Steep long (32 degrees or more but greater than 500 metres haul distance). This country is also too steep for skidders or tracked machines and requires another type of hauler. Tall poles or towers to which the haul ropes are attached are used to provide lift so that stems are hauled to the landing sites with minimal environmental impact.

Chain of Custody

All harvest loads leaving the estate will be accompanied by a docket or dockets stating crew, grade, forest location, weight and transport operator. Trucks will be randomly checked to ensure dockets are always present.

A decision has not been made as to the branding of logs, however options include an owners brand, the Managers brand or nothing.

Subject to attaining FSC the Manager would ensure all dockets have the FSC certification number on them and may brand the logs with the FSC logo.

Protection and maintenance

The Manager will maintain roads, track, fences and water systems. The Manager will ensure pest and disease control, fire protection and management of protected areas occurs at all times.

Pest management within the estate is subject to statutory obligations under the Regional Pest Management Strategy administered by the regional council. The strategy applies to both pest plants and animals, categorising them in terms of management objectives. The categories, objectives and land owner obligations are summarised below for each Regional Pest Management Strategy Plan.

Southland Estate has applied to join the Forest Owners Association (FOA). Once a member they will come into the FOA's biosecurity scheme which uses independent professional assessors to monitor members forests.

Weeds

The overall objective in managing weeds is to:

- Meet statutory obligations under the Regional Pest Management Strategy;
- Reduce direct impacts on both plantations and indigenous biodiversity values;
- Ensure impacts on neighbouring properties are promptly dealt with; and
- Reduce the abundance and distribution of these species within the forest estate.

The major species within Southland Estate are various grasses, gorse, broom, blackberry and wilding conifers.

Competition from colonising weeds will limit tree growth in their first few years after establishment. Control of these weeds involves chemical application which will occur prior to planting and may occur post planting.

Gorse and broom threaten indigenous biodiversity in open communities where they can smother native species, however they can also act as a nurse crop in some areas for native regeneration. Blackberry can displace native species by outcompeting and smothering them.

A list of pest weeds appears in the appendix of the Southland Estate environmental manual and this plan. All weeds will be controlled within Southland Estate as follows.

Total Control

Any weeds discovered under this category must be reported to the regional council. The council is responsible for controlling these weeds.

Regional Surveillance

Weeds under this category should be reported to the council so the council can monitor them.

Containment

Weeds under this category should be contained and removed if possible

Site-led

These plants will be cleared by the Manager if within 50m of a neighbour.

Disease

Diseases, which can affect the forest trees and adjacent native vegetation are monitored throughout the year and once a year by a professional independent forest health assessor. Most diseases cause little damage and do not require control. The exception is *Dothistroma pini*, a fungus which attacks pine needles and is associated with wet, warm conditions.

Dothistroma pini is the most commonly occurring fungal disorder within New Zealand's pine plantation. This fungus is controlled using an aerially applied copper-based fungicide spray, but only when the infection reaches a critical level. *Dothistroma pini* infection can also be controlled via silviculture by timely thinning and pruning operations, which increases air movement and lowers humidity levels.

There has been no need for Dosthistroma control within the Southland Estate forests.

No control is currently completed on other fungal disorders.

Any unusual mortality or colouring discovered within Southland Estate will be reported to Ministry for Primary Industries.

Chemical Control

All chemical applications are managed in accordance with the Managers environmental manual, the Managers Pesticide Policy and Chemical use SoP, the NZ Standard for Agrichemical Application, HSNO regulations and the obligations conferred by FSC to manage and minimise the use of chemicals; including use of alternatives where available. As part of the FSC commitment:

- All chemical usage is tracked by active ingredient and application area to enable reporting and monitoring of trends.
- the Manager has applied to be a participant in the Forest Owners environmental group which is undertaking research into chemical reduction, efficacy and safety issues related to the "restricted use" derogations applied by FSC to various activities pursuing biological control agents.
- No chemicals classified by FSC as "Highly Hazardous:" are used other than under the terms of any derogations applied by FSC.
- All unwanted chemical can be booked for pick up via the agrecovery website.
- All empty containers will be disposed of at one of the following registered recycling sites

1. Invercargill – Invercargill Transfer Station, 303 Bond Street, Invercargill
2. Invercargill - Drive-Through Recycling, 28 Ettrick Street, Invercargill.
3. Winton – Winton Transfer Station, Florence Street, Winton

Pest animals

Forests provide habitat for unwanted pest animals, and in most cases a refuge from which such pests can spread. Animal pests can substantially reduce the productivity of the forest. The Manager will attempt to identify all pests present and manage them within the relevant regional council pest management strategies. The Manager will work to control or eradicate such species in accordance with these plans, to prevent spread and nuisance to neighbouring properties.

Pest control operations are carried out by certified professional pest control organisations. These organisations work within the guidelines of the current pest management strategy to manage animal pests and co-ordinate with complementary organisations such as the Regional Councils, Department of Conservation, the Animal Health Board and other forestry organisations. The optimum method of animal pest control is determined following a review of relevant factors such as the level of damage occurring, the current animal population, the risk of re-infestation, the possible environmental and health effects of the control, and the benefits of the control. Environment Southland also conducts the Possum Control Area (PCA) in which Southland Estate forests are included, aiming to control possums in the area and limit the spread of the Tb virus.

The most cost effective long-term control is often achieved with the co-operation of neighbours, regional authorities and pest control agencies. The Manager will keep all these stakeholders informed of pest management operations.

As a member of the Forest Owners Association the forests are part of the associations security scheme, which uses professional assessors to monitor members forests.

Fire Prevention

The Manager complies with the Rural Fire authorities and Southland Estate's fire plan which is reviewed by the Manager each year before October.

The threat of fire is minimised by:

- Having an effective fire plan which encompasses prevention, detection and control procedures;
- Active prevention measures which include restrictions on access, fire prevention signage, publicity when fire danger is high and access to water sources;
- Effective detection systems which includes good communication systems, mapping, and fire plan alert procedures;
- A close link with the relevant fire authorities, and an understanding of equipment and trained manpower availability;
- Good forest management which recognises the influence of terrain, the road network and accessibility on fire prevention and control measures; and

- Suitable internal access systems of roads and tracks, and maintenance of fire breaks as the need arises.

The legal responsibility for fighting forest fires lies with the respective territorial land authorities where the forest is situated. In the case of the current Southland Estate portfolio the relevant Rural Fire Authorities (RFA's) is the Southland Rural Fire Authority.

In the event of a fire which starts within the forest, the RFA is responsible for attending and providing the resources to extinguish the fire. Where a fire starts outside the forested area and moves into the forest, the RFA has recourse to the Rural Fire Fighting Fund to compensate for firefighting costs. Where a fire starts within Southland Estate, the owner may be responsible for all firefighting costs.

The Manager maintains a close liaison with the RFA in terms of developing the "fire plan" and the maintenance of good communication relative to potential risks and fire danger ratings. This includes annual forest visits prior to the fire season.

All neighbours are contacted prior to the fire season to check the Managers records of contact numbers and other details are correct.

Rare and Threatened Species

The Manager is committed to managing Southland Estate to maintain a diversity of both indigenous flora and fauna species. Of particular importance are rare, threatened and endangered species living within the estate.

The Manager is undertaking a review to identify all rare, threatened and endangered species either confirmed or suspected to be present in our estate. Management Plans are progressively developed for all species confirmed to be present, focusing initially on those areas where harvesting is imminent. Management plans are prepared with input from Department of Conservation (DoC), Fish and Game, Southland Council and other recognised technical specialists.

Any permanent habitat for rare, threatened and endangered species is recorded in the GIS mapping layer as ecological restrictions and taken into account during planning of operations, to ensure compliance with the Management Plans.

Monitoring

Every year the Manager and Southland Estate will meet to discuss this plan and associated annual plans. An annual field trip will take place to check on agreed monitoring. A review of measures taken to meet objectives will be undertaken at this time and outcomes recorded.

All monitoring will follow the Managers monitoring plans and SoP as per the environmental manual. Unless commercially sensitive all monitoring results will be made available to public on request.

The monitoring program is designed to understand the impact of forest activities on the environment and the impact of the environment on the Managers ability to grow trees. This leads to the development of strategies to ensure the Manager continues to manage its activities in a sustainable way.

Health and Safety

All contractors and staff will be audited as per the Managers health and safety manual. All near hits, incidents and property damage will be recorded. The Manager will run a random drug and alcohol sampling program.

Environmental

The Manager will ensure all monitoring as specified in Southland Estate's environmental manual occurs. In particular the SHMAK testing and Wildland Ltd reporting on reserves.

Operations

The Manager conducts internal environmental audits to confirm operations have been carried out according to prescriptions, the Managers environmental manual and regulatory requirements. Corrective actions are identified and rectified.

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

Forest Growth

Forest growth is monitored through a combination of permanent sample plots and regular inventory.

Financial

The Manager will monitor budget versus expenditure quarterly and report variances to Southland Estate within the quarterly report and at quarterly meetings. Annual reports will be provided, and periodic review meeting will be held when requested.

Forest Health

The Manager will undertake a forest health monitoring survey each year to identify any health issues in the growing stands such as disease, pest damage or nutrient deficiencies. The most common disease affecting radiata pine is a fungal disease Dothistroma (Dothistroma septosporum) which causes needle cast in radiata pine and can severely

slow tree growth. Dothistroma is controlled using copper-based products (cuprous oxide) similar to those used to control disease in home vegetable gardens.

The annual health survey identifies any significant outbreaks of Dothistroma and this is used to develop the annual spray programme. Significant amounts of research have been carried out to ensure the lowest possible effective level of fungicide is used to control this disease. Even though risk is low, application is planned to ensure that drift is minimised and records are kept and audited to ensure that practices can be improved.

Stakeholders

Consultation will occur with stakeholders as per the environmental manual and this management plan. Feedback from stakeholders will be sought and monitored. This includes actions undertaken to resolve disputes and issues, monitoring of externally generated complaints and client satisfaction surveys.

Consultation will occur with stakeholders during resource consent applications, annual and periodic meetings, contributions to council processes and interactions with forest recreational users and iwi.

If required, the Manager will pay stakeholders for their time and will offer koha to tangata whenua for their traditional knowledge.

Planning

This plan pertains to the management of Southland Estate and will be adhered to for the next 2 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 contained in this management plan require a full review of this plan.

The next review date for this plan is: **July 2020**.

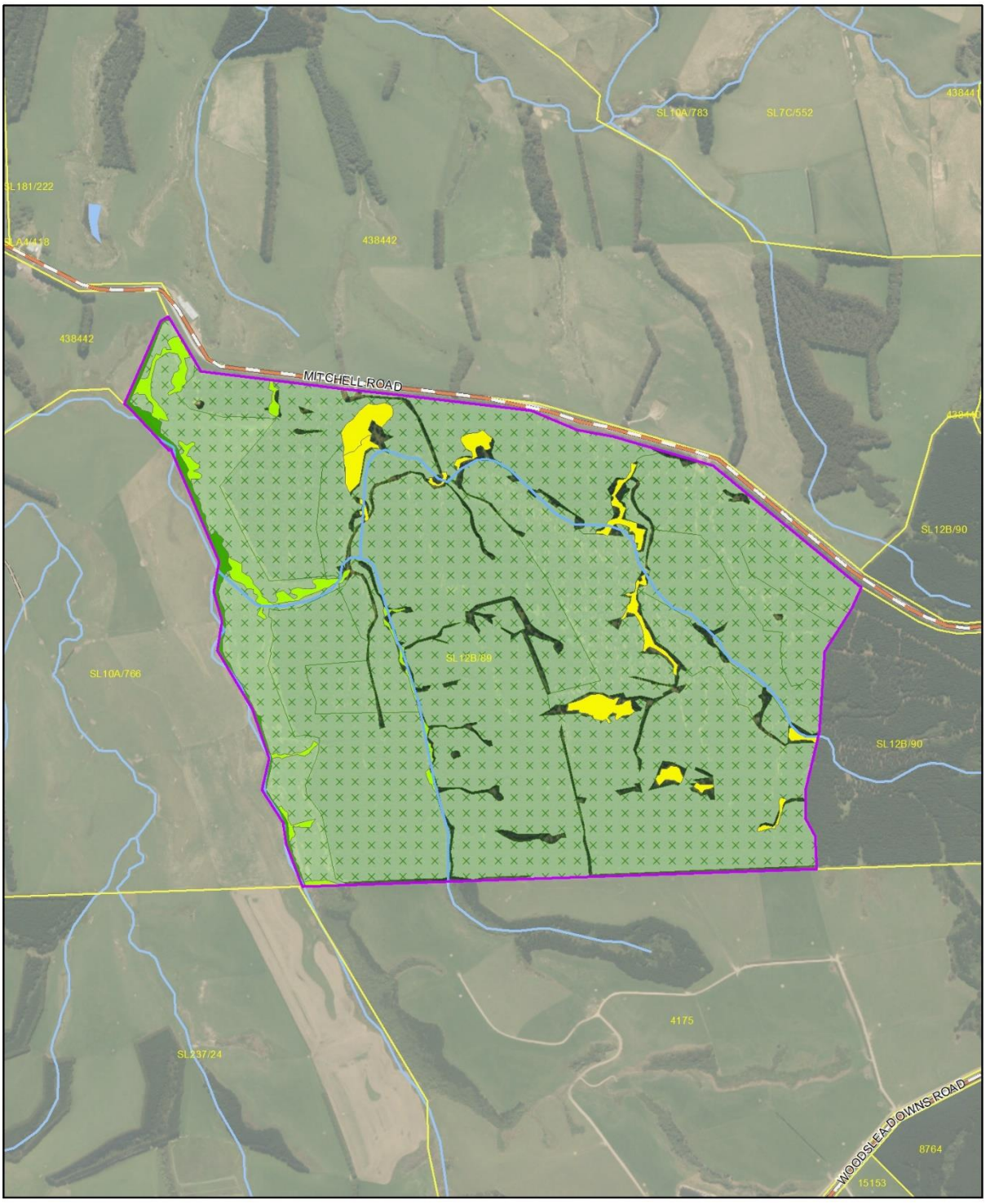
The review will include review of planned monitoring, reserve protection, stakeholder engagement and financial performance.

The forest 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. Operations plans and associated budgets are subject to approval by Southland Estate at the beginning of each financial year.

APPENDIX

Maps



SEL Tyneholm - FSC Vegetation & Management Units

IFS Growth
LIVING, BREATHING INVESTMENTS
www.ifsgrowth.co.nz

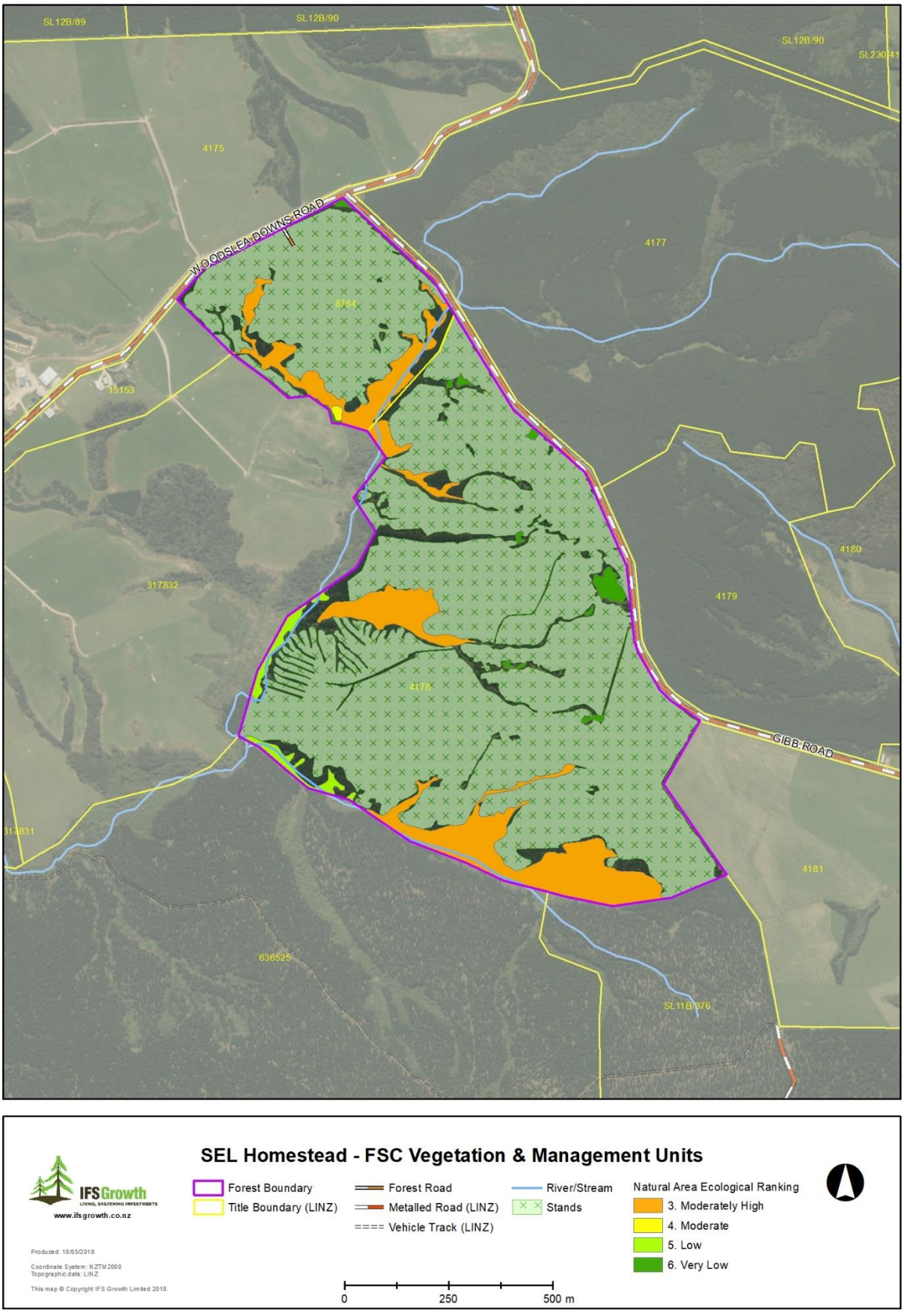
Forest Boundary
Title Boundary (LINZ)
Metalled Road (LINZ)
Vehicle Track (LINZ)
River/Stream
Waterbody
Stands

Natural Area Ecological Ranking
4. Moderate
5. Low
6. Very Low

0 250 500 m

Produced: 18/05/2018

Coordinate System: NZTM 2000
Topographic data: LINZ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SL12B/90
SL230141
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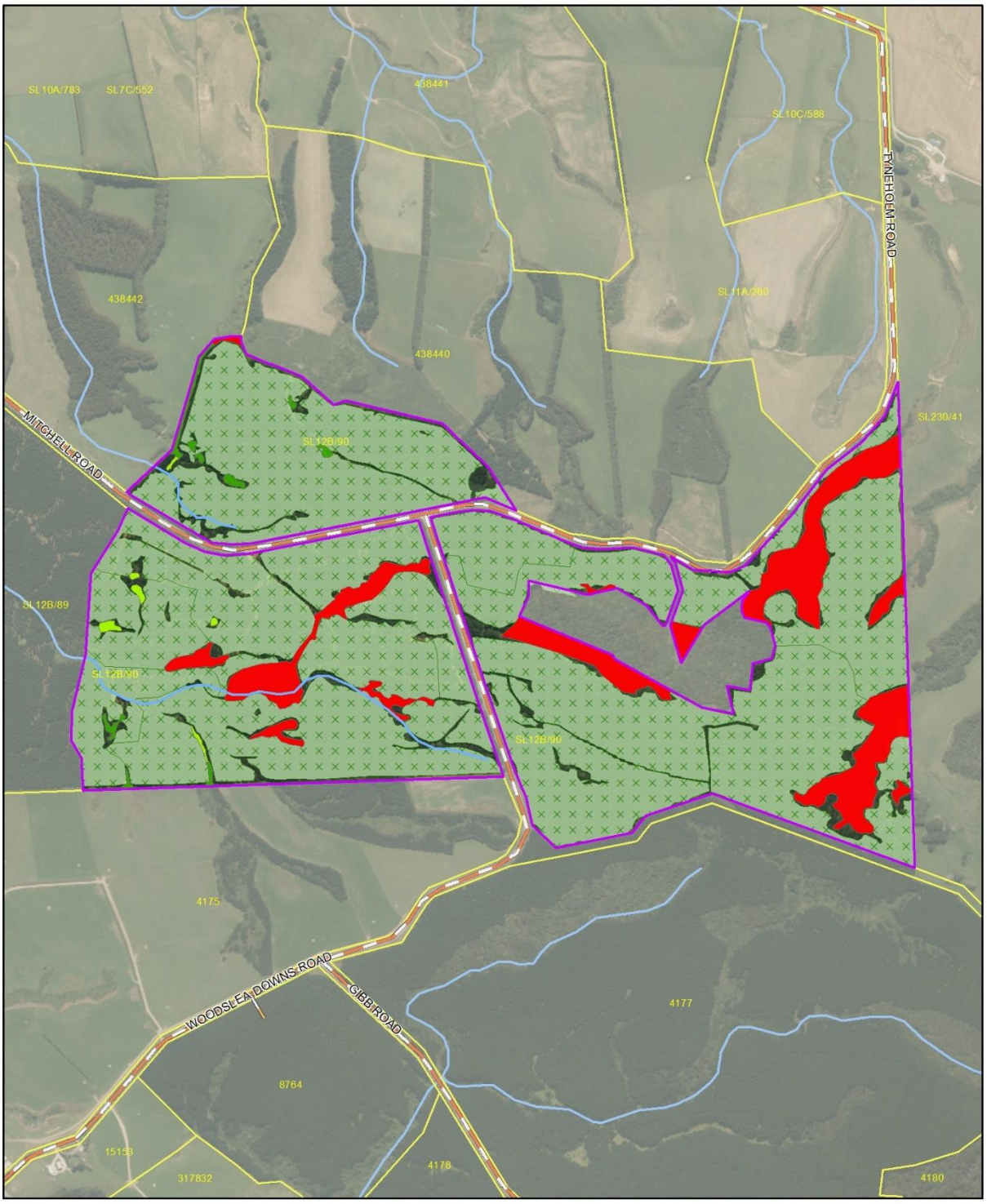
4177
8784
15153
317832
4180
4179
4178
GIBB ROAD
317831
4181
636525
SL11B/876

SEL Homestead - FSC Vegetation & Management Units
IFS Growth
LIVING, BREATHING INVESTMENTS
www.ifsgrowth.co.nz
Forest Boundary
Title Boundary (LINZ)
Forest Road
Metalled Road (LINZ)
Vehicle Track (LINZ)
River/Stream
Stands
Natural Area Ecological Ranking
3. Moderately High
4. Moderate
5. Low
6. Very Low
Produced: 18/05/2018
Coordinate System: NZTM 2000
Topographic data: LINZ
This map © Copyright IFS Growth Limited 2018.
0
250
500 m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SL7C/552
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SL10C/588
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SL12B/90
SL12B/89
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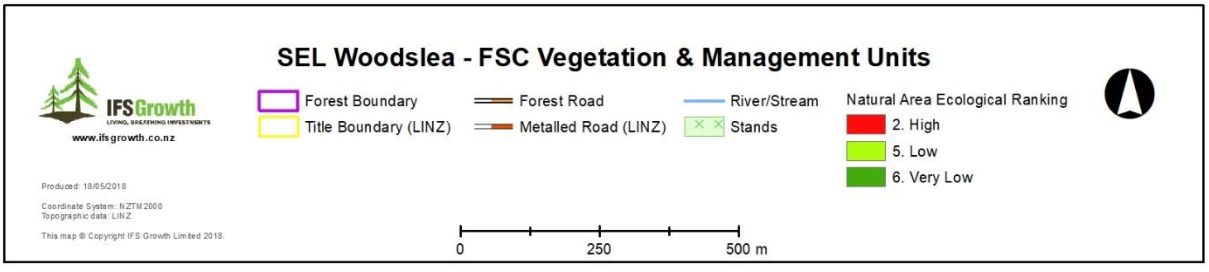
WOODSLEA DOWNS ROAD
GIBB ROAD
4177
8764
15153
317832
4178
4180


SEL Woodslea - FSC Vegetation & Management Units
IFS Growth
LIVING, BREATHING INVESTMENTS
www.ifsgrowth.co.nz
Forest Boundary
Title Boundary (LINZ)
Forest Road
Metalled Road (LINZ)
River/Stream
Stands
Natural Area Ecological Ranking
2. High
5. Low
6. Very Low
Produced: 18/05/2018
Coordinate System: NZTM 2000
Topographic data: LINZ
This map © Copyright IFS Growth Limited 2018.
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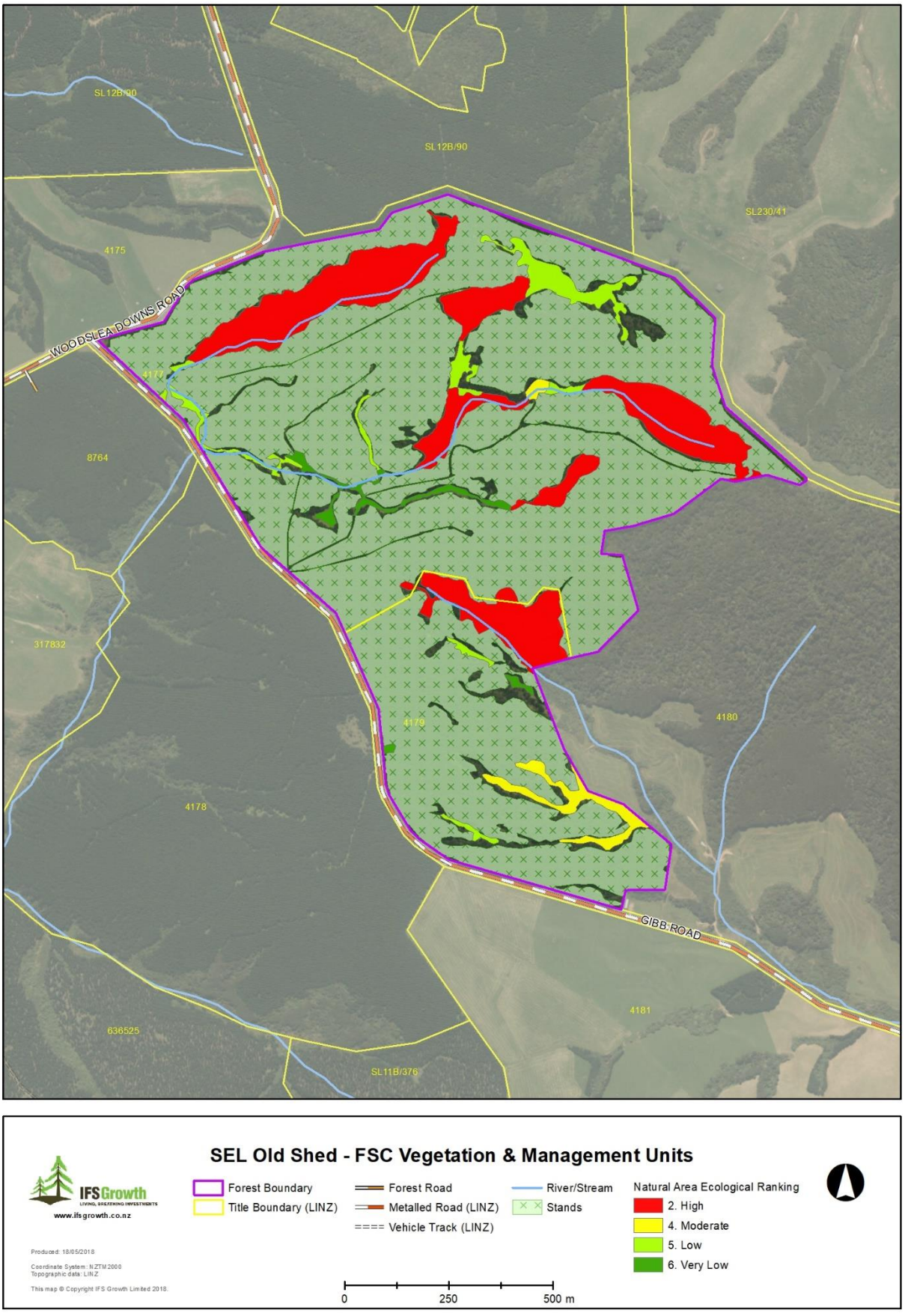
250
500 m



SEL Old Shed - FSC Vegetation & Management Units

IFS Growth
LIVING, BREATHING INVESTMENTS
www.ifsgrowth.co.nz

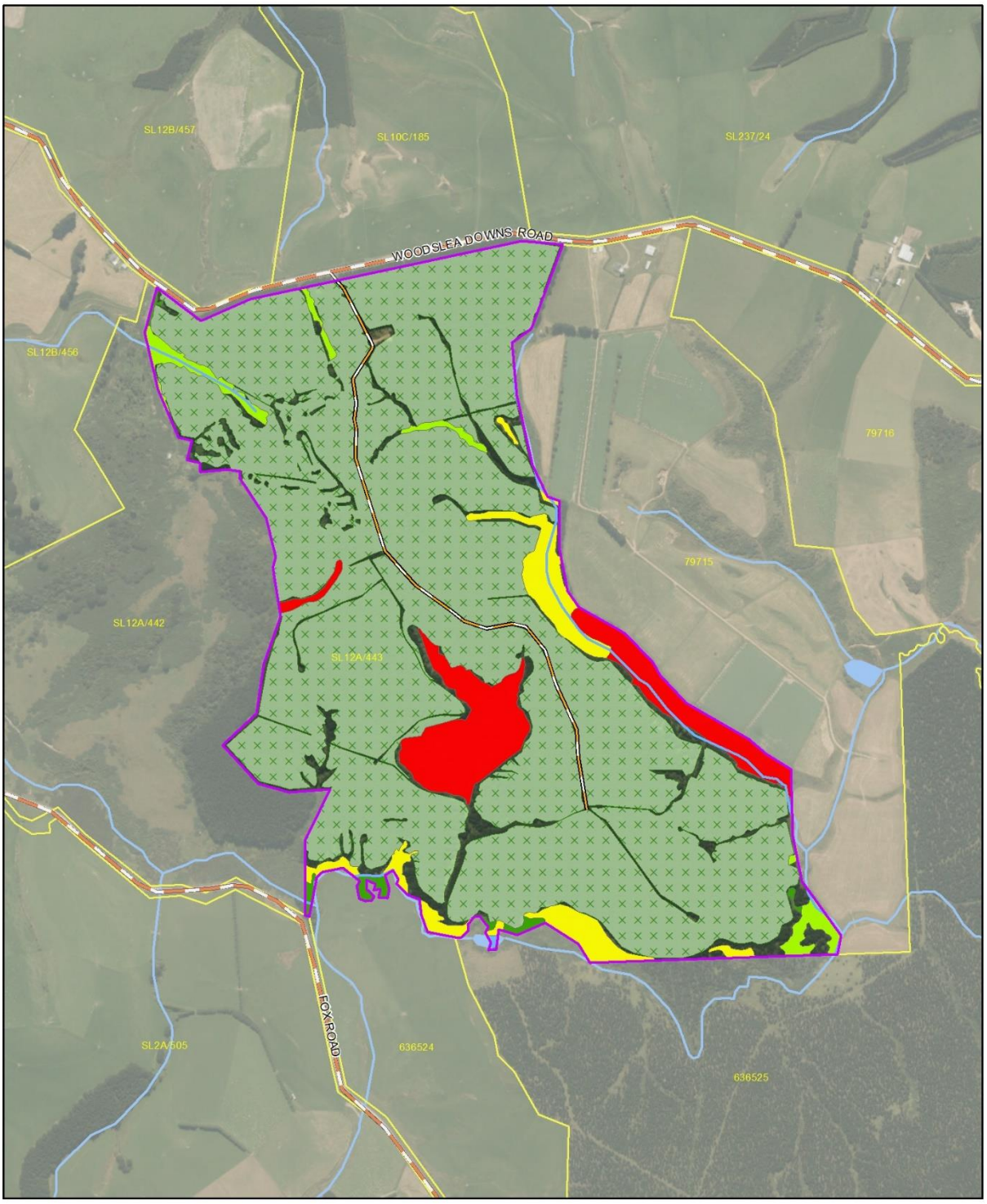
Forest Boundary
Title Boundary (LINZ)
Forest Road
Metalled Road (LINZ)
Vehicle Track (LINZ)
River/Stream
Stands

Natural Area Ecological Ranking
2. High
4. Moderate
5. Low
6. Very Low

0 250 500 m

Produced: 18/05/2018

Coordinate System: NZTM 2000
Topographic data: LINZ



SEL Fox - FSC Vegetation & Management Units

IFS Growth
LIVING, BREATHING INVESTMENTS
www.ifsgrowth.co.nz

Forest Boundary
Title Boundary (LINZ)
Forest Road
Metalled Road (LINZ)
River/Stream
Waterbody
Stands

Natural Area Ecological Ranking
2. High
4. Moderate
5. Low
6. Very Low

0 250 500 m

Produced: 18/05/2018

Coordinate System: NZTM 2000
Topographic data: LINZ

Pest Plants of the Southland Region

Total Control

Boxthorn (*Lycium ferocissimum*)
German ivy (*Delairea odorata*)
Old man's beard (*Clematis vitalba*)
Potato wart (*Synchytrium endobioticum*)
Purple loosestrife (*Lythrum salicaria*)
Siberian lyme grass (*Leymus racemosus*)
Smilax (*Asparagus asparagoides*)
Spartina (*Spartina anglica, S. alterniflora*)

Containment

Banana passionfruit *(Passifloa mixta, P.mollissima,P.tripartita)*
Blackberry (*Rubus fruticosus agg.*)
Chilean flame creeper (*Tropaeolum speciosum*)
Contorta pine (*Pinus contorta*)
Cotoneaster (*Cotoneaster glaucophyllus*)
Lagarosiphon (*Lagarosiphon major*)
Mountain pine (*Pinus mugo*)
Nodding thistle *(Carduus nutans)*
Reed sweet grass (*Glyceria maxima*)
Stonecrop (*Sedum acre*)

Site Led

Bittersweet (*Solanum dulcamara*)
Blackberry (*Rubus fruticosus agg.*)
Broom (*Cytisus scoparius*)
Californian thistle (*Cirsium arvense*)
Common ivy (Hedera helix subsp. helix)
Crack willow (*Salix fragilis*)
Elderberry (*Sambucus nigra*)

Gorse *(Ulex europaeus)*
Hawkweeds (*Hieracium spp.)*
Hawthron (*Crataegus monogyna*)
Ragwort *(Senecio jacobaea)*
Hemlock (*Conium maculatum*)
Himalayan honeysuckle (*Leycesteria formosa*)
Holly (*Ilex aquifolium*)
Montbretia (*Crocosmia x crocosmiiflora*)
Ragwort (*Senecio jacobaea*)
Scotch thistle (*Cirsium vulgare*)
Sweet brier (*Rosa rubiginosa*)
Sycamore (*Acer pseudoplatanus*)
Wild turnip (*Brassica rapa ssp. slyvestris*)

Regional Surveillance

African club moss (*Selaginella kraussiana*)
Aluminium plant (*Galaeobdolon luteum*)
Angelica (*Angelica pachycarpa*)
Bomarea *(Bomarea caldaasii,B. multiflora)*
Buddleja (*Buddleja davidii*)
Cape honey flower (*Melianthus major*)
Cherry laurel (*Prunus laurocerasus*)
Chilean fire bush (*Embothrium coccineum*)
Collomia (*Collomia cavanillesii*)
Egeria (*Egeria densa*)
European spindleberry (*Euonymus europaeus*)
Giant hogweed (*Heraculum mantegazanium*)
Green daphne (*Daphne laureola*)
Grey willow (*Salix cinerea*)
Gunnera (*Gunnera tinctoria*)
Hornwort (*Ceratophyllum demersum*)
Ice plant (*Carpobrotus edulis*)
Japanese honeysuckle (*Lonicera japonica*)

Nassella tussock *(Nassella trichotoma)*
Pampas grasses (*Cortaderia selloana, C.jubata*)
Periwinkle (*Vinca major*)
Spanish heath (*Erica lusitanica*)
Tradescantia (Tradescantia fluminensis)
Tutsan (*Hypericum androsaemum*)

High value conservation areas management plan

There have been no HVC areas identified by the independent Wildlands survey contracted by the Manager. Therefore a HVC management plan is not required, although the Manager is seeking input from Wildlands Ltd and all stakeholders on the protection of the high and moderately high reserve areas which have been identified.

Relevant Regulations, Standards and Guidelines

A.	NATIONAL LEGISLATION
	Legal Rights to Harvest: • **Land tenure and management rights** • **Concession licenses** • **Management and harvest planning**
	Treaty of Waitangi Act 1975
	Resource Management Act 1991
	National Environmental Standards for Plantation Forestry
	Forests Act, 1949
	Conservation Act 1987
	Crown Forests Asset Act 1989
	Forestry Encouragement Act 1962
	Forestry Rights Registration Act 1983
	Local Government Act 2002
	Public Works Act 1981
	Commerce Act 1986
	Companies Act 1993
	Trespass Act 1980
	Cooperative Companies Act 1996
	Crown Minerals Act 1991
	Income Tax Act 2007
	Overseas Investment Act 2005
	Walking Access Act 2008
	Te Turi Whenua Maori Act 1993

	Fencing Act 1978
	Heritage NZ Act 2014
	Foreshore and Seabed Act 2004
	Land Act 1948
	Land Transfer Act 1952
	Machinery Act 1950
	Native Plants Protection Act 1934
	Personal Property Securities Act 1999
	Plant Variety Rights Act 1987
	Taxes and Fees • **Payment of royalties and harvesting fees** • **Value added and sales taxes** • **Income and profit taxes**
	Minimum Wage Act 1983
	Workplace Relations Act 2000
	Employment Relations Act 2000
	Accident Compensation Act 2001
	Holidays Act 2003
	Treaty of Waitangi Act 1975
	Overseas Investment Act 2005
	Income Tax Act 2007
	Cooperative Companies Act 1996
	Companies Act 1993
	Commerce Act 1986
	Forestry Rights Registration Act 1983
	Crown Forests Asset Act 1989
	Forestry Encouragement Act 1962
	Forestry Encouragement Loans Regulations 1967

	Forests Act, 1949
	Injury Prevention, Rehabilitation, and Compensation Act 2001
	Sale of Goods Act 1908
	Timber Harvesting Activities • **Timber harvesting regulations** • **Protected sites and species** • **Environmental requirements** • **Health and safety** • **Legal employment**
	Health & Safety at Work Act 2015.
	Fire and Emergency New Zealand Act 2017.
	National Environmental Standards for Plantation Forestry
	Fire Service Act 1975 as Amended 1990
	Hazardous Substances and New Organisms Act 1996
	Wildlife Act 1953
	Wild Animal Control Act 1977
	Biosecurity Act 1993
	Climate Change Response Act 2002
	Misuse of Drugs Act 1975
	Transport Act 1962
	Forest Disease Control Regulations 1967
	Climate Change (Forestry Sector) Regulations 2008
	The New Zealand Forest Accord, 1991
	New Zealand Forest Code of Practice, June 1993
	Code of Practice for the Management of Agrichemicals, 2004. (NZS8409:2004)
	Safety and Health in Forestry Operations: Code of Practice and Best Practice Guidelines
	Principles for Commercial Plantation Forest Management in New Zealand, 1995
	NZ Environmental Code of Practice for Plantation Forestry,2007
	N.Z. Threat Classification system (2005)
	Ecological Regions and Districts of NZ

	Treaty of Waitangi Act 1975
	Holidays Act 2003
	Accident Compensation Act 2001
	Employment Relations Act 2000
	Workplace Relations Act 2000
	Minimum Wage Act 1983
	Fencing Act 1978
	Heritage NZ Act 2014
	Walking Access Act 2008
	Income Tax Act 2007
	Forestry Rights Registration Act 1983
	Forests Act, 1949
	Resource Management Act 1991
	Soil Conservation and Rivers Control Act 1941
	Third Party Rights • **Customary rights** • **Free prior and informed consent (FPIC)** • **Rights of indigenous peoples**
	Treaty of Waitangi Act 1975
	Fencing Act 1978
	Historic Places Act 1993
	Resource Management Act 1991
	Walking Access Act 2008
	Forestry Rights Registration Act 1983
	Forests Act, 1949
	Trespass Act 1980
	Maori Reserved Land Act 1955
	Te Turi Whenua Maori Act 1993/Maori Land Act 1993

	Trade and Transport • **Classification of species, quantities, qualities** • **Trade and transport** • **Offshore trading and transfer pricing**
	The New Zealand Forest Accord, 1991
	Forests Act, 1949
	Transport Act 1962
	Forest Produce Import & Export Regulations 1989
	Trade Marks Act 2002
	Custom regulations
	The New Zealand Forest Accord, 1991
	Forests Act, 1949
	Biosecurity Act 1993
	Customs and Excise Act 1996.
	Forest Produce Import & Export Regulations 1989
	CITES
	Convention on the International Trade in Endangered Species (CITES)
	Other
	Not applicable at this stage. All relevant legislation has been stated.
B.	**REGULATIONS PERTINENT TO FORESTRY RELATED TO AND EMERGING FROM NATIONAL LEGISLATION AND OTHER LEGISLATIVE INSTITUTIONS:**
	The New Zealand Forest Accord, 1991
	New Zealand Forest Code of Practice, June 1993
	Forest Produce Import & Export Regulations 1989
	Ecological Regions and Districts of NZ
	N.Z. Threat Classification system (2005)
	NZ Environmental Code of Practice for Plantation Forestry,2007
	Principles for Commercial Plantation Forest Management in New Zealand, 1995
	Code of Practice for the Management of Agrichemicals, 2004. (NZS8409:2004)

	Safety and Health in Forestry Operations: Code of Practice and Best Practice Guidelines
	Forests Act, 1949
	Forestry Rights Registration Act 1983
	Resource Management Act 1991
	Forestry Encouragement Loans Regulations 1967
	Forest Disease Control Regulations 1967
	Forest and Rural Fires Regulations 2005
	Forest and Rural Fires Act 1977
C.	**INTERNATIONAL AGREEMENTS PERTINENT TO FORESTRY**
	Convention on Biological Diversity
	Convention on the International Trade in Endangered Species (CITES)
	IUCN Red List of threatened species
	ICOMOS New Zealand Charter, 1993
	Kyoto protocol
	ITTA
	International Labour Organisation (ILO) conventions: • 29 Forced Labour Convention, 1930. • 87 Freedom of Association and Protection of the Right to Organise Conventions, 1948. • 97 Migration for Employment (Revised) Convention, 1949. • 98 Right to Organise and Collective Bargaining Convention, 1949. • 100 Equal Remuneration Convention, 1951. • 105 Abolition of Forced Labour Convention, 1957. • 111 Discrimination (Occupation and Employment) Convention, 1958. • 131 Minimum Wage Fixing Convention, 1970. • 138 Minimum Age Convention, 1973. • 141 Rural Workers' Organizations Convention, 1975. • 142 Human Resources Development Convention, 1975. • 143 Migrant Workers (Supplementary Provisions) Convention. 1975 • 155 Occupational Safety and Health Convention, 1981. • 169 Indigenous and Tribal Peoples Convention, 1989. • 182 Worst Forms of Child Labour Convention, 1999. • ILO Code of Practice on Safety and Health in Forestry Work (ILO 1998) • Recommendation 135 Minimum Wage Fixing Recommendation, 1970. • ILO Declaration on Fundamental Principles and Rights at Work, 1998 and its Follow-up. ILO member states are expected to promote and realize these principles, even if they have not ratified the Conventions. • The ILO Code of Practice is not a legal instrument, but it provides authoritative guidance on forest work.

D.	LOCAL STANDARDS AND BEST OPERATING PRACTICES
	The New Zealand Forest Accord, 1991
	National Environmental Standards for Plantation Forestry
	New Zealand Forest Code of Practice, June 1993
	Code of Practice for the Management of Agrichemicals, 2004. (NZS8409:2004)
	Safety and Health in Forestry Operations: Code of Practice and Best Practice Guidelines
	Principles for Commercial Plantation Forest Management in New Zealand, 1995
	NZ Environmental Code of Practice for Plantation Forestry,2007
	N.Z. Threat Classification system (2005)
	Ecological Regions and Districts of NZ