FOREST ENTERPRISES GROWTH LIMITED

Environmental Standards

August 2024

This document outlines the environmental standards that the staff and contractors of Forest Enterprises Growth Limited are required to meet in carrying out forestry operations in accordance with FSC® principles and standards for responsible forest management.

Forest Enterprises®
Creating wealth. Naturally.

Purpose

The purpose of this document is to guide Forest Enterprises staff, contractors and their employees through sound environmental practices for all operations, so that the value of the forest asset continues to be enhanced.

In addition, for Forest Enterprises and our forest-owning clients to maintain the important "social licence to operate", stakeholders must have confidence all operations are continued and/or managed in the same way across the estate.

This document must be live, meaningful and able to be used constantly.

Review Process

These Environmental Standards ("the Standards") were updated in **August 2024** by Forest Enterprises.

Forest Enterprises will review these Standards in March every year or as required. This review will include the CEO, Southern North Island Regional Manager and the Environmental & Risk Manager.

The Environmental & Risk Manager will initiate the review process.

The process will review:

- The results of Internal and External Audits, particularly those which may have resulted in Corrective Actions
- The evaluations of compliance with legal requirements, particularly Resource Consents, and with other requirements to which Forest Enterprises subscribes
- The ongoing suitability of the policies in relation to changing conditions and information
- Stakeholder interactions and any Social Impact Assessments which may have been undertaken
- Identification of any changes to, or any new processes or procedures required

Indicators as follows:

- Action request status and close out performance
- Environmental incidents
- Permit issue
- Rare, threatened and endangered species
- Water quality benchmarking
- Operational performance monitoring
- Lost time injury performance
- Chemical active ingredient applications
- Plantation vs non-plantation areas
- Objectives and targets progress to date
- Changing business environment considerations

Version Control

After each review is completed the year in the footer must be updated.

All older versions are archived.

The revised Standards must be sent to all Forest Enterprises staff, contractors and clients after each review.

Contents

Environmental Standards

Vision

Through consistent application of sound industry environmental practices, Forest Enterprises shall demonstrate stewardship over all land they manage to enhance the value of the asset.

Goals

Our goals are to ensure operations:

- Manage and protect historic and Waahi Tapu sites and significant ecological and natural areas
- Appropriately manage the use of chemicals and hazardous substances
- Manage sedimentation and prevent excessive erosion
- Promote effective management of harvest residues
- Ensure operations meet legal requirements and manage social expectations of stakeholders

Objective

Forest Enterprises' Environmental Standards are designed to communicate our expectation for environmentally sound forestry operations.

Scope

These Standards state what we expect to happen within forests managed by Forest Enterprises.

How this is achieved is addressed by Forest Enterprises staff and contractors using other resources and references including, but not limited to, the following:

- Internal Standard Operating Procedures (SOP) which provide procedures for Forest Enterprises staff to follow when planning and overseeing operational activities
- Environmental Code of Practice (ECoP), published in 2007 jointly by the New Zealand Forest Owners Association (FOA), New Zealand Farm Forestry Association (FFA), and the Forestry Industry Contractors Association (FICA)
- New Zealand Forest Road Engineering Manual 2020
- Regional Council guidelines
- National Environmental Standards Plantation Forestry (NES-PF)
- National Environmental Standards Commercial Forestry (NES-CF)
- The Forest Accord Approved Code of Practice for Safety and Health in Forest Operations

Planning

Soils, water quality and flow, site productivity, biodiversity, landscape, cultural heritage and landforms are all potentially affected by forest operations and will be considered at the planning stage.

The environmental effects of all forest operations including access, harvesting, restoration, reforestation and maintenance, will be considered before operations start.

Planning will involve the collection of site information and consultation with relevant persons and organisations.

The information gathered during planning will be the basis for Operational Plans.

Level	Period	Model used	Key Deliverables
Long Term	50-60 years	Tigermoth	Agreed NDY cut levels over 2 rotations
Strategic	2-5 years	Tigermoth	Annual cut & sales plan for budgets Options analysis; (5.4.1) Preliminary harvest plans, to generate EIA work

		Harvest Planning	Determine how soils, water quality, site productivity, biodiversity, landscape, & cultural heritage may be affected by operations - the EIA Identify consents required Identify affected stakeholders for consultation Identify category 2 & 3 reserves for fine level surveys Collection of all data necessary for detailed operational planning
Operational	12-18 Months	Harvest Schedule	Cut by Cpt & Stand; detailed harvest plans to cover: access, harvesting equipment, site restoration, reforestation and road & track maintenance Specify/prescribe the actual work to avoid, remedy or mitigate the adverse environmental effects identified in the EIA process Detailed consultation with key stakeholders Reconciliation process & reporting (5.2.1) Reference to relevant ECoP BEPs Detailed budgets Contractor work planning, incl specific gear requirements Monitoring requirements for resource consents and for company assets. Resource requirements for this work

Management of Environmental Impacts

Assessment of Environmental Effects

The process of assessing risk due to operations is known as Assessment of Environmental Effects (AEE). The actual work is called an Environmental Impact Assessment (EIA).

The matrix below will assist identifying environmental issues which are potentially affected by the various components of harvesting operations. The full matrix may be seen in the ECoP Operational Planning and Harvesting and Earthworks Best Environmental Management Practice (BEP).

If the activities involved in harvesting are likely to affect the environmental values, planners and supervisors must then refer to the relevant BEP in the ECoP and include the appropriate rules in the harvesting prescription. Guidance notes are also provided, and these are to be followed.

Table: AEE Matrix for Harvesting

Activities	**Environmental Values/Issues**								
	Erosion & Sediment	**Water Quality**	**Soils**	**Aquatic Life**	**Native Wildlife**	**Native Vegetation**	**Historic & Cultural Values**	**Neighbours**	**Public Utilities**
Harvest	Y	Y	Y	Y	Y	Y	Y	Y	Y
Earthworks	Y	Y	Y	Y	Y	Y	Y	Y	Y
Harvest Residue	Y	Y	Y	Y	Y	Y	Y	Y	Y
Streams	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oil & Fuel		Y	Y	Y	Y	Y	Y	Y	Y
Protection	Y	Y		Y	Y	Y	Y	Y	

The detailed AEE worksheet is part of the Harvest Planning SOP, and must be completed before each compartment, and before each harvest setting if unusual situations apply.

Notifying Incidents

Forest Enterprises has an obligation to report incidents to a variety of external organisations as well as to its own Integrated Management System (IMS) as follows:

- Forest Enterprises IMS: All incidents are to be reported and will be discussed at Operations Meetings and follow-up actions will be applied if required.
- Territorial Councils: Non-compliance with Resource Consents or Permitted Activity Conditions; environmental incidents where there are impacts to air, soil or water.
- Department of Conservation: Discovery of Rare, Threatened or Endangered Species; damage to Conservation areas (including Crown Forest Licence Covenant Areas and areas in the Protected Natural Areas programme)
- New Zealand Historic Places Trust: Incidents involving known historic sites, discovery of new historic sites (Pre-1900).
- Tangata Whenua: Incidents involving known iwi sites, or discovery of potential new sites

Environmental incidents are classified as:

1. **Environmental Near Miss:** Incidents which are contained before any significant environmental damage is done.
2. **Environmental Incidents**: Incidents which require the involvement of an external agency- for example a significant chemical spill to water, operating without a legal consent, rural fires within the forest, significant natural event (heavy rainfall, earthquake, etc.), or any biological event such as the incursion of a new biological threat.
3. **Non-compliances**: Include operating outside the conditions of a Resource Consent, side-casting soil into a significant waterway, failure to report a chemical spill into a significant waterway, etc.

Stakeholders

All stakeholders will be considered when planning any operation. Forest Enterprises staff must refer to the Stakeholder SOP.

Forest Enterprises is responsible for the identification of neighbours and stakeholders and identifying contact their details. Forest Enterprises will maintain an open and positive relationship with neighbours and stakeholders, by informing them on upcoming operations at proximity to their land and by keeping them updated for the duration of the operations as necessary.

Forest Enterprises staff are responsible for managing the day-to-day stakeholder consultation and relationship issues. All consolation will be documented for example using emails, diary notes and photographs.

Operational staff are responsible for ensuring operations have been consulted on by stakeholders, in accordance with the Environmental Standards, the ECoP, and any resource consent conditions imposed. If there are any variations from the results expected, stakeholders must be informed.

Forest Enterprises contractors must complete the work they are contracted to carry out. All contractors must be aware of the importance of stakeholders to the Company's business.

Procedure

Upon acquisition, Forest Enterprises updates the list of neighbours and stakeholders from the LINZ spatial database. Contact details for the identified neighbours and neighbouring stakeholders are sourced and maps are created so that operational staff are aware of who to contact when operations are about to commence in different areas of the forest.

Forest Enterprises will make initial contact with neighbours and/or stakeholders to ensure the company has the right contact details.

Every year, Forest Enterprises will ensure the title boundary layer is updated in ArcGIS in order to keep track of any ownership changes. If a change in ownership occurs, the new landowner will replace the current on the affected land unit. The spatial records will be updated in ArcGIS and the spatial records in GeoMaster and the Neighbours and Stakeholders database.

Conservation of Natural and Cultural Values

Forest Enterprises' goal is to ensure forest operations protect significant ecological and natural areas as well as historic and Waahi Tapu sites.

General Principles

Environmental values will be identified as part of the management planning and the AEE process.

Such values shall include the identified:

- Reserves, including indigenous habitats
- High Conservation Value Forest (HCVF) areas
- RTE species and their habitats
- Water courses, wetlands and associated riparian zones
- Historical and Waahi Tapu sites

Areas with identified natural values shall be subject to generic or specific management plans which reflect their perceived values.

The monitoring of natural values shall be in accordance with established conservation best practices.

Legal and customary rights will be respected where they have been identified and notified on the land under management.

Identified Tangata Whenua on Forest Enterprises' stakeholder list will be considered during the planning and conduct of significant forest operations. They will be notified of significant forest operations. They will be notified immediately if an archaeological site is found.

Any archaeological sites found will be managed in accordance with the guidance included in the next section, Historic Site Management.

Stakeholders with interests in natural values shall be consulted during the planning process, and particularly when forest operations are planned near reserve areas.

The Forest Manager intends to maintain a minimum of 10% of its estate in Reserve Set Aside Areas (RSAA).

Forest Enterprises is a member of the New Zealand Forest Owners Association (FOA) and is therefore bound by the provisions of the New Zealand Forest Accord 1990.

Planning Required

Desktop analysis of indigenous vegetation areas as potential reserves will be undertaken through analysis of maps, aerial photos, and publicly available databases as part of the company's strategic planning process. In addition, desktop analysis of publicly available databases will be undertaken to review potential Historical or Waahi Tapu sites.

Independent expert ecological advice will be sought to undertake a coarse level assessment of the identified reserves on the estate (ecological consultant reports), and subject these to an objective categorisation process.

Individual management plans shall be developed for High Conservation Value Forest (HCVF) areas and these plans will be submitted for interested stakeholder comment. This process will be repeated for additional forest purchases, and as fine level analysis is completed for reserves before harvest starts in adjacent blocks.

When plantation areas adjacent to reserves are planned for harvest, the detailed harvest planning for each site will consider any environmental features which may warrant further ecological investigation.

Weed and pest control plans shall be written for all forests managed by Forest Enterprises and reviewed annually. This work must take account of relevant Regional Pest Management Plans, and any animal pest control plans from OSPRI (the Animal Health Board), which may wish to use Highly Hazardous chemicals.

Historic Site Management

Prior to any operations beginning, any known historic sites must be clearly identified on planning maps and located in the field and marked. Historic sites also need to be assessed against the HCV criteria. All HCV areas are to be mapped in the Risks layer and their management plans are to be listed in the relevant Estate Management Plan.

Marking methods include taping off around entire site or individual trees with yellow tape.

Where necessary, all sites must be remarked at the end of each operation, to minimise the risk of damage by future operators.

A Heritage New Zealand authorisation must be in place prior to operations beginning if operations may damage the site.

All contractors operating within the area must be made aware of known sites. This must be documented on all Pre operation forms.

For known sites, damage/avoidance measures must be known to all people in the vicinity of the Historic Site.

All contractors operating in an area covered by a Heritage New Zealand Authorisation must be inducted and familiar with the Archaeological and Waahi Tapu Sites and Discovery SOP and any applicable conditions of the Authority.

In the event of a previously unknown historic site being discovered, the procedure summary (below) and the Archaeological and Waahi Tapu Sites and Discovery SOP must be implemented and followed.

Procedure Summary

1. All work on site must cease immediately, and Forest Enterprises notified.
2. Do not re-enter site until told you can by Forest Enterprises.
3. Immediate steps must be taken to secure (tape it off with a minimum of 20m buffer) the site to ensure the archaeological remains are undisturbed and the site is safe under health and safety regulations; work may continue outside of the site.
4. Forest Enterprises will engage an archaeologist to carry out an assessment. If the site is suspected to be Waahi Tapu the local Iwi will be consulted.
5. Work at the site shall not recommence until either the material is defined as not archaeological, or the archaeological assessment has been made, all archaeological material has been dealt with appropriately and the statutory requirements have been met.
6. If burials or human remains are uncovered, then steps 1 to 3 must be taken, and the New Zealand Police shall also be notified immediately by Forest Enterprises.

Soil Protection and Management

Proper care of forest soils is fundamental to sustainable forestry.

Forest operations should not result in a significant deviation from natural rates of erosion and landslides.

Forest soil care involves the control and prevention of unacceptable rates of erosion, nutrient loss and landslides, and of excessive compaction, puddling and mixing of topsoils and subsoils, during and after forest operations.

During planning for forest operations, consideration will be given to the erodibility, load-bearing capacity, depth and susceptibility to soil nutrient loss and landslides of different soil types.

The Ministry for the Environment has classified land in New Zealand using the Erosion Susceptibility Classification (ESC). A map has been prepared for the estate highlighting how susceptible the land upon which each forest is planted is to erosion. The Management Plan describes the soils in the Wairarapa and Gisborne areas as dominated by siltstone and mudstone soil types. When undisturbed, these hill soils have a distinct topsoil overlying paler lower horizons. However, in general, these soils are prone to both shallow soil slips and mass movement erosion, and restorations rates of the soil are very slow.

The Regional Plans have a series of rules which affect soil disturbing activities. Roading and tracking are Restricted Discretionary Activities, and disturbance of more than 1,000 cubic metres of soil on erosion-prone land requires a resource consent.

Similarly, disturbance of more than one hectare of vegetation on erosion-prone land also requires a resource consent and specific mitigation measures may be required.

Rainfall Events

Forest Enterprises monitor Regional Council and Fire & Emergency New Zealand (FENZ) weather stations and when a rainfall event occurs (50mm+ in 24 hours) for active forests and 100mm+ for inactive forests an alert is raised. All forests (operational or not) that are closest to that weather station are checked for Environmental Incidents and instability.

For forests that have a Resource Consent and have a condition regarding erosion and water controls are checked for maintenance or environmental incidents/near misses.

Forests that have Resource Consents that contain a rainfall event reporting condition are evaluated with photos, notes, and follow-up actions and this is then sent to the applicable Regional Council.

The management of potential impacts on the soils of the estate can be summarised as follows:

Environmental Effect	Mitigating measures
Unacceptable erosion levels	Observe NESPF guidelines Minimise mid-slope tracking Maximise deflection (log suspension) during hauler logging operations Ensure water controls are in place and are maintained. ECoP- Earthworks BEP, Waterway crossing BEP
Nutrient loss	Foliage surveys Allow for fertiliser application, especially for micronutrients. Slash management BEP Mechanical land preparation minimised, and specialist equipment used to maintain duff and harvest residue layer Wind rows to be placed on the contour where practicable. Leave adequate organic material in the logged area after harvesting operations. Mechanical land preparation BEP Restrict burning as a land preparation tool. Replanting the winter following the first spring after logging.
Landslides	Minimise mid-slope roads & tracks on steep and unstable slopes. Replanting the winter following the first spring after logging.
Excessive compaction	Define, so as to minimise, extraction tracks & allow for reinstatement as part of land preparation after harvest. Bring logging residues onto logging tracks during extraction where practicable.
Skid sites	Ensure water drainage systems are in place. Minimise area, consistent with Health & Safety requirements. Maintain harvest residues in a safe location. Remove harvest residues from landing shoulders or edge of steep drop-offs that may pose a risk of later collapse Identify & rectify any soil pollution from oil or other hydrocarbon spills.

These features and the mitigating measures must be considered in the AEE Assessment.

See also the Harvesting and Earthworks section of these Standards.

Water Quality and Flow

Ensure that all activities in and around waterways and riparian areas comply with the law as laid out in the Resource Management Act, NES-PF/NES-CF and Regional Plans, and that said activities are permitted or consented under the law before beginning work.

Ensure that riparian zones are protected during forest operations through regular harvest site inspections and post-operation audits.

Harvest planning and Harvest Prescription maps must contain the classified streams layer.

Waterways are classified by two factors: Width and Erosion Susceptibility Classification (ESC). The ESC is as per the Ministry for Primary Industries (MPI) National Environmental Standards for Plantation Forestry - Erosion Susceptibility Classification Dataset, which is obtained via an online hosted feature layer. ESC is included in the stream classification to help inform operational staff of when permitted or consented activity in and around waterways may carry an elevated amount of environmental risk.

Width of a stream is determined firstly at a coarse level by the GIS Team, using a combination of imagery and elevation products to determine the bankfull channel.

These widths will be modified as:

1. Better/updated data comes to hand, and
2. As directed by operational staff as a result of field visits.

The resultant classifications are:

Erosion Susceptibility	Width (m)	Classification
Very High	>10	V1
Very High	>3	V2
Very High	<3	V3
High	>10	H1
High	>3	H2
High	<3	H3
Moderate	>10	M1
Moderate	>3	M2
Moderate	<3	M3
Low	>10	L1
Low	>3	L2
Low	<3	L3

At all times the in-stream values are to be protected.

Stream Health Monitoring and Assessment Kit (SHMAK) testing will take place before, during and after harvest at points designated on Forest Enterprises' GIS. In general, these sites will be where major waterways leave the forest. The testing will be performed with guidance from the NIWA Manual.

Reserve and HCVF Management

Our goal is to ensure operations protect significant ecological and natural values.

During harvest planning and prior to any operations beginning, the FSC Category layer (GIS) must be reviewed.

Rationale

All areas of non-plantation forest are initially treated as reserves, on the basis conservation of indigenous flora and fauna assists the maintenance and restoration of habitat, the enhancement of opportunities for recolonisation of disturbed areas, the maintenance of the genetic resources, and the linking of forest areas to allow genetic interchange.

This retention of native flora and fauna has led to a system of formal and informal reserves, and stream side reserves dispersed throughout the forest.

Reserve Categories

Forest Enterprises has adopted a system for objective ranking of reserves which allows appropriate management in or near those areas. This categorisation indicates whether some lower categories of reserves may be crossed in order to achieve a net environmental, social and economic gain.

The criteria are as follows:

Criteria	Ranking	
Representativeness		
Indigenous vegetation or habitat that is representative, characteristic, or typical of the natural diversity of the relevant ecological district or ecological region. Note: Assessment of this criterion will require technical input from an ecologist.	H	Indigenous vegetation that is similar in composition and structure to the original (1840) vegetation cover
	M	Secondary indigenous vegetation lacking the original
	L	Vegetation canopy exotic, or with a substantial exotic component, and lacks regeneration of the former canopy species
Indigenous vegetation that is one of largest examples of its type within the relevant ecological district or region	H	Large intact examples of indigenous vegetation types in the relevant ecological district or region
	M	Moderately sized examples of indigenous vegetation types in the relevant ecological district or region
	L	Small examples of indigenous vegetation types in the relevant ecological district or region
Rarity		
Indigenous vegetation cover on land environments that have less than 20% of their original indigenous cover remaining.	H	At least 5 ha of Indigenous vegetation on Acutely Threatened (<10% indigenous cover remaining) and Chronically Threatened (10-20% indigenous cover remaining) level IV land environments
	M	At least 5 ha of indigenous vegetation on At Risk Level IV land environments that have 20-30% of their original cover remaining
	L	Indigenous vegetation on Level IV land environments that have at least 30% of their original extent remaining, or <5 ha of indigenous vegetation on At Risk, Chronically Threatened, or Acutely Threatened Level IV land environments
Indigenous vegetation type or habitat of indigenous fauna that has been reduced to less than 20% of its former extent in the relevant ecological district, freshwater environment, or nationally. Note: Accurate information at the ecological district scale may not always be available.	H	Indigenous vegetation or habitat of indigenous fauna that is reduced to less than 20% of its original extent
	M	Indigenous vegetation or habitat of indigenous fauna that is reduced to 20-30% of its original extent
	L	Indigenous vegetation or habitat of indigenous fauna that has at least 30% of its original extent remaining
Indigenous vegetation or habitat of indigenous fauna that supports an indigenous species that is Threatened, At Risk, or uncommon, nationally or within the relevant ecological district.	H	A Nationally Threatened species ('Nationally Critical', 'Nationally Endangered', 'Nationally Vulnerable' from the national classification) is resident or commonly uses the site
	M	Nationally At-Risk species (includes 'Declining', 'Naturally Uncommon', 'Relict', and 'Recovering' national categories) or uncommon species in the relevant ecological district is resident or commonly uses the site
	L	No nationally Threatened or At Risk or uncommon species present
Distinctiveness		
The site contains indigenous vegetation or an indigenous species at its distribution limit within Eastern Wairarapa Ecological District or nationally.	H	A vegetation type or species is present at its national distribution limit
	M	A vegetation type or species is present at a regional distribution limit
	L	No vegetation types or species at national or regional distribution limits are present at the site
Indigenous vegetation or an association of indigenous species that is distinctive, of restricted local occurrence, occurs within an originally rare ecosystem, or has developed as a result of an unusual environmental factor or combinations of factors.	H	Vegetation occurring on originally rare ecosystems; associations of indigenous species that are distinctive within the relevant ecological district
	M	Associations of indigenous species that are locally distinctive
	L	No distinctive features present at the site

Diversity and Pattern		
Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of indigenous ecosystem or habitat types, indigenous taxa, or has changes in species composition reflecting the existence of diverse natural features or ecological gradients.	H	More than 75 indigenous plant species and/or five or more vegetation types, or 10 or more indigenous avifauna present
	M	Between 25-75 indigenous plant species and/or three or four vegetation types, or between 5-9 indigenous avifauna present
	L	Fewer than 25 indigenous plant species present within only one or two vegetation types, and fewer than five indigenous avifauna present
Ecological Context		
Vegetation or habitat of indigenous fauna that provides or contributes to an important ecological linkage or network or provides an important buffering function.	H	A large site that provides important buffering of a protected natural area or wetland, occupies a headwater catchment of a permanent stream
	M	A smaller site that is part of a network of patches of indigenous vegetation within the flying distance of most forest birds; sites that provide moderate buffering of streams or wetlands
	L	Isolated from other areas of indigenous vegetation or habitat, lacks important buffering functions
A wetland which plays an important hydrological, biological or ecological role in the natural functioning of a river or coastal system.	H	Listed in WERI inventory or Regional Freshwater Plan for the Wellington Region
	M	Not listed in regional databases; greater than 0.5 ha in area, or smaller but dominated by indigenous plant species
	L	Not listed in regional databases; less than 0.5 ha and with a significant component of exotic plant species
Indigenous vegetation or habitat of indigenous fauna that provides important habitat (including refuges from predation, or key habitat for feeding, breeding, or resting) for indigenous species, either seasonally or permanently.	H	The site provides an important habitat for indigenous or migratory fauna
	M	Sites of moderate habitat value for indigenous or migratory fauna
	L	Sites that have low importance as a resource for indigenous fauna

Each site is then assessed using the criteria set out in the above table to assign an overall ecological rating (Reserve ranking).

Rank	**Criterion**
1	Category 1 sites will likely have H scores for criteria 1 and 7. In addition, they are likely to have either H or M scores for the following criteria: 2, 9, 11. Sites that score H for Criterion 10 are likely Category 1 sites, as they are representative examples of large wetlands, however, the final category designation may depend upon factors such as the integrity of the wetland and the diversity of habitats that are present. A Category 1 site may score H, M or L for Criteria 3, 4, 5, and 8, as these criteria do not solely influence the overall category score of the site. Overall, the key criteria determining Category 1 sites are Criteria 1 and 2.
2	Category 2 sites are likely to have H scores for Criteria 1. In addition, they are likely to have either H or M scores for the following criteria: 2, 7, 9 and 11. Sites that score M for Criteria 10 are likely to be Category 2 sites, however this may be contingent upon the attributes of other criteria. A Category 2 site may score H, M or L for criteria 3, 4, 5, and 8, as these criteria do not solely influence the overall category score of the site.
3	Category 3 sites are likely to have H or M scores for Criteria 1. In addition, they are likely to have either M or L scores for Criteria 7 and 10. A Category 3 site may receive a H, M or L score for criteria 2, 3, 4, 5, 8, and 9 as these criteria must be viewed in the context of other ecological attributes that are present at the site. Category 3 sites can score H or L for Criteria 6.
4	Category 4 sites are likely to have medium or low scores in the following criteria: 2, 3, 4, 8 and 9. In addition, they are likely to have low scores for the following criteria: 5, 6, 7, 10 and 11. A Category 4 site may score H, M or L for criteria 1.

HCVF Management

All sites must be assessed using the FSC definitions for High Conservation Value Forests (HCVF). FSC Indicator 9.1.1 provides guidance on the definition of HCVF's with New Zealand.

Any HCVF1 – 3 sites that are identified are to be managed to their management plan and as a Rank One Reserve to ensure the highest level of protection.

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)

Reserve Management

Reserves should be fully evaluated before harvest planning begins so any actions which may damage the reserve can be avoided. All reserves (Rank 1-4) should be included in the Harvesting Prescription.

Any operations such as roading or harvesting that significantly reduces the size of a reserve must have a written justification (Decision Support System) proving that other options were considered, and that the reserve modification is the best environmental, economic and safest choice.

When undertaking operations adjacent to Reserves the following criteria must be met:

Rank 1	• No major disturbance from operations • Must not be pulled through for hauler operations • No new roads or tracking by machinery • Only minor edge damage accepted where trees cannot be safely felled away, or backline is adjacent • No spraying of indigenous vegetation
Rank 2	• May have minor disturbance from operations • Can be pulled through for hauler operations but limited to minimum extraction lines or points • Minor tracking allowed by machinery – minimal disturbance only • No spraying of indigenous vegetation • All work must be in accordance with Forest Enterprises rules and the job prescription
Rank 3	• May have disturbance from operations • Can be pulled through for hauler operations but at a level where native vegetation can regenerate • Can have minor tracking by machinery or roads constructed through where essential • No spraying of indigenous vegetation • All work must be in accordance with Forest Enterprises rules and the job prescription
Rank 4	• May be disturbed • If does not meet forest accord and is unviable to practically protect can be destroyed. • May be cleared and planted as production forest • May be sprayed

Flora, Fauna and RTE Species

Conservation of flora and fauna is assisted by the maintenance and restoration of habitat, the enhancement of opportunities for recolonisation of disturbed areas, and the linking of forest areas to allow genetic interchange.

Maintenance of the genetic resources of native forest is assisted by the retention of native flora and fauna in formal and informal reserves dispersed throughout the forest.

As far as practical, areas of native vegetation should be protected.

Weed and pest control plans shall be formed for forests and reviewed. Checks should be made, and changes noted, for any changes in flora within the forest.

Rare, threatened and endangered (RTE) species must be reported to Forest Enterprises within 24 hours of a sighting.

An annual flyover of the forests is used to identify mortality/disease. During the flight, photos and videos are taken. Forest crop health surveys also occur 5-yearly, and a selected number of Reserves receive in-house health monitoring annually in Spring.

Establishing and Maintaining Forests

General Principles

Forest Enterprises will aim to conserve soil and water quality, maintain biodiversity and long-term site productivity, reduce visual impact and protect other natural and cultural values.

Prompt reforestation will contribute to the achievement of these aims. No commercial planting will occur in riparian zones (10 metres either side of any permanently flowing waterbodies).

All newly established forests will need monitoring and protection. At age 4, all sites will be checked to observe any foliage discolouration. If discolouration or other concerns are noted, foliage samples will be taken and sent for lab analysis.

Site Preparation

Chemical Management

The use of chemicals will not prejudice the achievement of the water quality objectives as determined under these Standards.

An Herbicide Spray Plan must be issued for all spraying operations.

All operators and applicators must hold a Certified Handler or have direct access to someone who does or be under the direct supervision of someone with the correct Grow Safe certification.

All spraying operations must be carried out in accordance with NZS8409:2004 Management of Agrichemicals.

Aerial spraying should not be conducted when there is a risk of drift into streamside reserves. Boundaries of reserves should be clearly visible or marked or delineated during operations by electronic means.

'No-spray' and 'buffer zones' must be identified prior to operations beginning. These will be planned for and documented, with measures taken to avoid over-spraying.

'No spray' and 'buffer zones' may include:

- Protected areas such as indigenous or riparian vegetation
- Neighbouring properties
- Water bodies - flowing waterways must be identified and buffered

Where practicable larger droplet size, via Through Valve Droplet (TV) booms or AccuFlo nozzles, should be used where there is a sensitive boundary. Also consider using drift reduction agents.

No chemicals are to be stored on Forest Enterprises managed land other than for 'just in time' delivery to operations, i.e., 48 hours.

Loading and mixing areas should be a safe practical distance away from streams or water supplies and the site shall be suitably located or sufficiently bunded to contain accidental spills.

All empty chemical containers must be removed from the work site regularly. All chemical containers shall be triple rinsed and disposed of in a legally and environmentally acceptable way i.e., Agrecovery. This is the responsibility of the operator.

Any potentially affected party must be notified prior to operations and in accordance with the ruling set out by the relevant Regional Council.

A check of water controls on boundaries must be undertaken to ensure that no sediment can incidentally transport herbicide off site.

Pesticides use in FSC Certified Forest Estates will follow the FSC Pesticides Policy (FSC-POL-30-001 V3-0 EN) where:

1. Highly hazardous pesticides (HHPs) are identified and categorized as prohibited, highly restricted or restricted
2. An integrated pest management (IPM) plan identifies that permitted chemical use is a last resort and an environmental and the social risk assessment (ESRA) process is followed
3. Any necessary repairing of the environment and human health will be investigated and the monitoring the use and impact of the pesticide use will be examined

The contractor is in direct control of aerial operations.

Forest Enterprises' involvement in the operation is limited to issuing prescriptions/plans, identifying hazards and monitoring/QA of operations.

Forest Enterprises staff retain the right to stop any spray operations due to adverse weather conditions or safety.

Mechanical Land Preparation

Mechanical land preparation must only be undertaken in areas prescribed by Forest Enterprises staff.

Sites being land prepped must not be cleared back to bare soil. Soil disturbance must be minimised with only harvest residues wind-rowed, except when v-blading, ripping and mounding.

Where practicable, rows should be aligned along contours. If wind-rowing (line raking) continuously downhill is required, a contoured windrow at the bottom of the slope is required to slow surface run off and to contain sediment transport. In addition, catch drains or angle mounds should be placed at falls of 1-3° at a maximum spacing of 60m.

There is to be no mechanical land preparation within 10m of a permanently flowing stream or wetland.

The area immediately below culvert outlets should generally not be cultivated or windrowed.

Water controls must be maintained in effective operating condition until sites are revegetated, rehabilitated or otherwise stable.

Firebreaks and Access Tracks

Permanent fire breaks and access tracks constructed as part of the fire management system will be carefully sited so that they can be drained properly and have minimal visual impact.

Fire breaks will have cut-outs placed on them at least 60m apart.

New access tracks and fire breaks are not permitted within streamside reserves or machinery exclusion zones except to access crossing points.

Fire breaks will be maintained in a state which provides effective access and minimises vegetation build up.

When maintaining fire breaks and access tracks, drainage structures will be retained or restored where necessary.

Fire dams and water storage areas should be planned to take into account aquatic fauna values, and erosion risk especially during floods. Dams should preferably be built in drainage depressions.

Wildling Control

Forest Enterprises will control all regenerating pines within Forest Enterprises managed forests. In addition, they will ensure wildlings do not spread into neighbouring properties, and if they do take appropriate action to destroy them.

Harvesting and Earthworks

Harvesting and Earthworks operations can have significant negative impact on the environment if not managed correctly.

Forest Enterprises intrinsically uses the guidance of statutory legislation and industry best practice guides as a standard to minimise any adverse effects of Harvesting and Earthworks operations on the environment. Forest Practice Guides are readily available through NZ Forest Owners Association.

Forest practice Guides

https://docs.nzfoa.org.nz/site/assets/files/1517/amalgamated_guides-2-0.pdf).

Environmental Code of Practice for Plantation Forestry (ECOP)

https://www.nzfoa.org.nz/resources/file-libraries-resources/codes-of-practice/44-environmental-code-of-practice/file

The current versions are to assist forest owners/managers and contractors to meet legislative requirements of the Resource Management Act 1991 (RMA) and, in particular, the National Environmental Standards for Plantation Forestry (NES-PF). They do not replace or override any statutory requirement. For various forestry operations, the guides provide options and information on a range of practices and methods to manage effects of the operations on the environment. The guides cover a range of forestry operations and environmental values that need care.

Operational Harvesting Operational Rules – ECOP

- Comply with operational specifications.
- Do not destroy, damage or modify archaeological sites without approval.
- Make every reasonable effort to avoid damage to restricted areas e.g., native vegetation, protected riparian strips, historic and heritage sites, research areas.
- Do not use waterways as extraction corridors or routes.
- Install appropriate water and sediment controls and prevent runoff flowing directly into waterways. Appropriate water control can be achieved through:
    - Water bars & cut-offs
    - Sediment traps
    - Slash redistribution
    - Track and soft point corduroying
- Maintain water and sediment control structures in effective operating condition until site decommissioned.
- Keep machinery out of water bodies and riparian margins, unless authorised.
- Use appropriate felling and extraction techniques to minimise impact in sensitive areas. If unacceptable effects are unavoidable, then consider:
    - Leaving trees standing
    - Fell to waste
- Use appropriate options to minimise tracking to reduce soil disturbance, compaction and erosion.
- Monitor the effects of the activity during an operation, on completion, and where necessary, on a routine basis thereafter to ensure operational or compliance specifications have been met.
- Close or control operational areas to prevent inadvertent unauthorised access.
- Wash machinery where weed transfer is an identified risk.

Operational Earthworks Operational Rules – ECOP

- Communicate operational requirements verbally and in writing before an operation starts to ensure personnel are aware of their environmental obligations.
- Comply with operational specifications.
- Make every reasonable effort to avoid damage to restricted areas e.g., native vegetation, protected riparian strips, historic and heritage sites, research areas.
- Do not damage, modify or destroy archaeological sites without approval.
- Place debris where it will not affect sensitive features, zones or destabilise the site.
- Keep machinery out of waterways and riparian margins unless authorised.
- No earthworks within 5m of permanent waterways except at designated crossings or water access points or where topographical constraints leave no alternative.
- Earthworks should be stable or stabilised using recognised engineering and vegetative techniques.
- Do not incorporate slash or other organic material into steep fill batters.
- Install correctly designed waterway crossing structures, sediment traps and cut-off spacing according to local soil, rainfall and topographic conditions and as work progresses.
- Remove all rubbish from the forest and dispose in a legally and environmentally acceptable way.
- Monitor the effects of the activity during an operation, on completion, and where necessary on a routine basis thereafter to ensure operational and compliance specifications have been met.
- Wash machinery where weed transfer is an identified risk.

	ENVIRONMENTAL VALUES/ISSUES											
Forestry operational Activities	Erosion & sediment control	Water quality	Soil conservation & quality	Air quality	Aquatic life	Native wildlife	Native vegetation	Historical & cultural values	Landscape & visual values	Neighbours	Public utilities	Recreation values
Harvesting	•	•	•	•	•	•	•	•	•	•	•	•
Earthworks	•	•	•	•	•	•	•	•	•	•	•	•
Slash management	•	•	•	•	•	•	•	•	•	•	•	•
Stream crossings	•	•	•		•	•	•	•	•	•	•	•
Mechanical land preparation	•	•	•	•	•	•	•	•	•	•	•	•
Burning	•	•	•	•	•	•	•	•	•	•	•	•
Planting							•	•	•	•	•	•
Tending		•			•					•	•	•
Fertiliser application		•	•	•	•					•	•	•
Agrichemical use	•	•	•	•	•	•	•	•	•	•	•	•
Oil & fuel management		•	•		•	•	•	•		•	•	•
Waste management		•	•		•	•		•	•	•		•
Forest protection	•	•			•	•	•	•		•		•

Management of Fuel, Oils and Rubbish

General Principles

A risk management approach should be taken for those activities which use, produce, convey or store significant quantities of materials which could cause serious or material environmental harm to soils or waterways if released.

Use of Fuel, Grease and Oils

Equipment will be maintained so fuel leaks are minimised.

Fuel, chemicals and oils will be stored in a location where any inadvertent leaks will not enter watercourses, swamps or other waters either directly or indirectly.

Fuel and oil refilling stations must be located in a designated and well-managed 'Safe Zone'. See also ACOP Section 9 Hazardous Substances.

A Safe Zone includes all of the following:

- Away from potential strike zones of machinery such as excavators and trucks
- Located where an accidental spill cannot enter water including, water tables, streams, ponds, wetlands overland flow paths
- Separate from equipment maintenance areas
- On an area or over material capable of absorbing latent spills i.e., sawdust or bark chips
- Takes into consideration a safe servicing and refuelling requirements

Stationary tanks must have secondary containment if the storage capacity is greater than 2,000L. See also ACOP Section 9 Hazardous Substances.

Secondary containment includes any of the following:

- Bunded (110%), drip trays, double skinned
- Open bunded tanks need to be sitting level and capable of holding 110% capacity and be capable of having water safely drained without contaminating the surrounding area

Where an open bund system is used on fuel storage tanks, contaminated wastewater must not be discharged directly onto ground.

Contaminated water must be passed through absorbent materials prior to discharge.

Fuel and oil containers must be well maintained with no leaks. Pipes, seals and fittings must be kept in good condition and regularly checked. Shut-off valves must be operational.

Machinery should be inspected regularly for leaks. Where dripping leaks are present, they should be repaired as soon as possible.

Procedures must be available on-site to respond to an emergency spill.

Container and Tank Labelling

Storage containers and tanks must be correctly labelled in accordance with HSNO.

Spills

Any spills will be contained as soon as possible. Clean-up procedures should be promptly implemented where necessary.

All significant spills (>20 litres) of hazardous substances must be recorded as an incident and reported to Forest Enterprises as soon as possible.

Significant spills include:

- Any spilled hydrocarbon (oil, diesel, petrol, hydraulic oil) with a quantity of >20 litres
- Any hazardous substances spilled in any quantity which has reached or is likely to reach flowing water
- Any herbicide or pesticide with a quantity >5 litres or any vertebrate poisons which cannot be recovered

Hazardous substances such as waste oil, fuel, or herbicide wash water must never be deliberately released onto soil.

Waste oil must be collected and removed off site to an authorised disposal/recycling facility.

Waste oil must not be reused as chain bar lubricant or for treating winch or hauler ropes or guys. This is due to the presence of contaminants and toxic substances within waste oil.

Herbicide wash/rinse water should be collected in a storage tank. This can then be used as part of the mixture in the next operation if no other option exists this water can be discharged to a landing surface provided there is no run-off.

Rubbish

Rubbish such as oily wastes, fuel and oil drums, filters and oily rags must be stored in suitable containers and regularly removed as they are generated or emptied to a collection depot suitable for receiving hazardous wastes.

All other rubbish, e.g., wire ropes, plastic wrappings, will be removed regularly to a collection depot or transfer station or recycled if able.

All rubbish must be kept in a suitable rubbish bin with all rubbish removed from the site at completion of the operation as per the post-harvest audit.