

NZS AS4708 GN01–2016

**Sustainable Forest Management –  
Guidance for the certification of forest  
management  
(Guidance Note 01 to NZS AS  
4708–2014)**

AS 4708:2013 was prepared by the Standard Reference Committee SRC AS4708 of Australian Forestry Standard Limited. As an accredited Standards Development Organization, Australian Forestry Standard Limited develops and publishes Australian Standards.

The following are represented on the Standards Reference Committee responsible for this Australian Standard®:

- Association of Accredited Certification Bodies (AACB)
- Australian Forest Growers (AFG)
- Australian Forest Products Association (AFPA)
- Australasian Pulp and Paper Industry Technical Association (APPITA)
- Balkanu Cape York Development Corporation.
- Construction Forestry Mining Energy Union (CFMEU)
- Commonwealth Scientific and Industrial Research Organization (CSIRO)
- Ecological Society of Australia (ESA)
- ForestWorks
- Greening Australia Limited
- Independent Forest Policy and Forest Science Experts
- Institute of Foresters Australia (IFA)
- Planet Ark
- Timber Communities Australia (TCA)

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The adoption of AS 4708:2013 as a New Zealand Standard was prepared under the supervision of the P 4708 Committee the Standards Council established under the Standards Act 1988.

The New Zealand Committee consisted of representatives of the following:

- Certification bodies
- Douglas-fir Association
- First Union
- Fish and Game New Zealand
- Lincoln University
- Local Government New Zealand
- Ministry for Primary Industries
- New Zealand Forest Owners' Association
- New Zealand Institute of Forestry
- New Zealand Timber Industry Federation
- Wood Processors Association of New Zealand

This guidance note was adapted from the Australian Forestry Standard guidance document AS4708 GN01-2013, taking into account differences in the requirements of NZS AS 4708:2014 and also to incorporate differences in the terminology, practices and cultural environment of New Zealand.

The NZ Forest Certification Association wishes to acknowledge the participation of the expert individuals that contributed to the adaption of this Standard through their representation on the Committee and with assistance in adapting the Guidance Note.

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The NZ Forests Certification Association welcomes suggestions for improvements to this Guidance Note, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us by email at **[info@forestrystandard.org.au](mailto:info@forestrystandard.org.au)** or write to PO Box 786, New Farm, QLD, 4005.

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# Section A

## *Certification of Forest to NZ AS4708*

### **1 Introduction**

The objective of the New Zealand Standard for Sustainable Forest Management (NZS AS 4708:2014) is to provide forest managers with environmental, economic, social, and cultural criteria and requirements that support the sustainable management of forests.

Buyers of timber, in common with buyers of other goods such as food and clothing, are interested in where the product they buy comes from, and how it has been produced. In order to satisfy this interest, many timber producers have introduced the use of systems of independent certification of forest management and various forms of labelling.

All those approaches for the provision of useful and reassuring information to consumers pre-suppose that there is a set of criteria that the producers and/or the forest products are required to meet in order to qualify for a certificate or a label.

In the case of timber, these criteria relate to the forest management practices employed in the growing and harvesting of the trees from which the wood products are sourced. Sometimes the processes that the timber has subsequently undergone will also be examined.

The principal reassurance that the supply chain and final consumers are seeking is that the forests supplying particular wood products are being well-managed. The quality of forest management is sometimes summarised by saying that a forest is (or is not) being sustainably managed.

The New Zealand Standard for Sustainable Forest Management (the Standard) seeks to distil from community values and the science of forest management those environmental, economic, social and cultural criteria that are considered to be most important for ensuring that a forest is well-managed. It is intended that the Standard be used by accredited and independent third party certification bodies and that it embodies forest management performance criteria which support continual improvement toward sustainable wood production in New Zealand.

The Standard is based on the Australian Forestry Standard (AS4708 2013) which was adapted to New Zealand conditions by the P4708 Committee the Standards Council established under the Standards Act 1988. The Standard is based on internationally agreed criteria and reflects broad multi-stakeholder support. It is intended for voluntary application and will assist to promote access to both domestic and international markets for timber from certified forests. It is applicable to all forests managed for forest products and services, regardless of type and scale of ownership, or forest type, whether natural or planted forest.

#### **1.1 What is a Standard**

Standards are accepted specifications that define materials, methods, processes and practices that, when effectively implemented, ensure that consistent and acceptable levels of quality, performance, safety and reliability are achieved. Certification of forest management provides an assurance that the quality of the forest management practiced conforms to a specified



standard. Standards are voluntary compliance documents that only become mandatory if called up through legislation or contractual obligation.

The Standard is a nationally endorsed New Zealand Standard developed within the recognised international frameworks of the Montreal Process Criteria and Indicators (1995) and the International Organisation for Standardisation (ISO) 14000 series of international, voluntary environmental management standards, but which takes account of local operating conditions.

The Australian Standard was developed for forestry in Australia, however given similarities in operating conditions between Australia and New Zealand, much of the standard was directly applicable to New Zealand. Through the adoption process the standard was modified to New Zealand taking into account:

- the unique character of New Zealand’s forest ecosystem and the particular requirements for sustainable management of New Zealand’s forests, compared to the existing schemes for forests in other nations;
- New Zealand’s international agreements and commitments, national and regional legislative frameworks, national standards and principles, national and regional policy initiatives, and agreed codes of forest practices; and
- community expectations for sustainable forest management, addressing environmental, economic, social and cultural issues.

## **1.2 Mutual Recognition of Forest Certification Schemes**

International recognition of national certification schemes is now common place, prompted by concerns regarding credibility and acceptance in the global economy, confusion amongst consumers, and a need to provide verification of responsible forest management to customers. Two principal international initiatives are the Programme for the Endorsement of Forest Certification Schemes (PEFC) and the Forest Stewardship Council (FSC). Both these schemes offer an umbrella for the recognition of national and regional initiatives in certification of forest management that have been or are being developed in a number of countries. A large degree of commonality exists between the Standard and the performance requirements of these initiatives.

The Standard was developed cognisant of the criteria for international recognition, including those criteria of:

- being independent and impartial, including a clear separation between development of standards and accreditation of certification bodies;
- being accessible to all interested stakeholders with a balance of influences;
- incorporating performance levels at appropriate scales through an open process involving all interested stakeholders;
- being voluntary and including the broad participation of forest managers;
- accommodating all forest sizes and ownership structures;
- being scientifically-based and involving the scientific community in its development;
- combining with an internationally recognised environmental management system;
- having transparent and understandable process that is accessible to all interested parties;
- being easily understood and leading to the same results when used by different certification bodies;

- being regularly assessed and revised in the light of new knowledge as part of a continual improvement process;
- allowing bearable costs of certification and not making wood and non-wood products uneconomical in comparison to other materials;
- complying with government forest policy and regulations; and
- involving competent accreditation bodies and independent, accredited third party certification bodies.

### **1.3 PEFC Endorsement**

The essential components of the New Zealand Forest Certification Scheme (NZFCS) have been evaluated against the requirements of the PEFC Council's Standards, Technical Documents and its Annexes for the purposes of seeking mutual recognition with other national schemes within the PEFC Council framework. In 2014, Australian Forestry Standard Ltd submitted its application and updated scheme documentation for a conformance (evaluation) assessment by the PEFC Council. The New Zealand standard along with supporting procedural documentation was included within this application. In December 2015 PEFC confirmed the application to endorse the New Zealand standard was successful.

This endorsement allows certified forests managers to be recognised under the PEFC Scheme and for the use of the PEFC logo subject to the licence conditions imposed by the scheme.

### **1.4 Application of Requirements**

Forest management certification can occur with different forest ownership and management arrangements, including:

- a single contiguous forest site, managed by one owner, manager, or agency;
- an aggregation of forest sites under a single land tenure arrangement that are managed by a single forest manager using a single overall management system or process;
- a group of forest sites under multiple land tenure arrangements that are managed by a single forest manager using a single overall management system or process; and
- a group of forest sites under multiple land tenure arrangements that are managed by multiple forest managers using a single overall management system or process controlled by a group manager;

Native forests and/or plantations (exotic and/or native species) may be covered by a single forest management certification. The forest operations and activities to be included under a single certificate will depend on factors such as the nature, scale and intensity of activities. While small areas of forest may not include the full suite of forest values, the combination of forested areas in a region will provide the basis for sustainable forest management.

Forest managers may in these situations rely on the broader environmental planning powers of Central, regional and local government to manage regional sustainability requirements.

Each of the forest management and public participation performance and management systems requirements are intended to be incorporated into forest management to the extent that the forest manager can control or influence their achievement within the defined forest area.

The forest management performance requirements need to be applied at appropriate ecological, temporal and spatial scales, recognising that different criteria apply at different scales that will

affect the ability of the forest manager to control or influence their achievement. The requirements should also be interpreted and applied in the context of the relevant policy and legislative framework.

The management system requirements need to be applied in a manner commensurate with the size and nature of the forest manager's particular activities, and will be audited accordingly.

It is recognised that some requirements may be inappropriate for some forest managers in some situations. Some flexibility to allow local adaptation may, therefore, be acceptable. The certification body carrying out the audit will make a professional judgement as to the acceptability of the flexibility, and may consult appropriate specialists.

## 1.5 Use of Certification Marks

The use and application of certification marks is strictly controlled by the international certification community, local accreditation bodies, certification bodies and government trade practices and fair trading organisations.

The Standard sets performance requirements for sustainable forest management and nominates the specific activities that must be performed in order for that outcome to be achieved.

Certification marks related to the New Zealand Forest Certification Scheme can be fixed to a product to indicate that the product originated from a forest certified to the Standard. The use of certification marks is controlled by licence agreements and is subject to the conditions of these agreements including the payment of fees.

## 2 Certification Framework

### 2.1 Certification process

The certification process involves determining whether forest management meets all the normative requirements of the Standard. The following are the main steps in the certification process.

<b>Initial approach</b>	When a forest manager makes an initial approach to an accredited certification body, the certification body will ask for some basic information about the forest management in order to provide a quote and formal proposal.
<b>Scoping visit</b>	Though not essential, a scoping visit is useful in identifying at an early stage any areas where forest management is unlikely to meet the requirements of the Standard so they can be addressed before the audit begins.
<b>Formal application</b>	When a forest manager is ready to proceed with certification, they complete a formal application form and agree a fee with the certification body.

<b>Initial audit (Stage 1)</b>	The certification body will undertake a review of key management system processes and a sample of field operations, and provide a report that assists the forest manager to identify and rectify any major areas of concern. <b>NOTE:</b> Forest managers undertaking certification may seek to substitute this stage by self or assisted completion of project checklists which cover the requirements of the Standard.
<b>Certification audit (Stage 2)</b>	The certification body evaluates the management of the forest against the requirements of the Standard.
<b>Certification</b>	If the evaluation is positive, a certificate of registration will be issued.
<b>Surveillance audits</b>	The certification body will check the certificate holder to ensure continued compliance with the Standard. They will check that any corrective actions the forest manager was asked to carry out have been completed.
<b>Re-certification</b>	The certification body will periodically need to re-evaluate the management of the forest against the requirements of the Standard.

## 2.2 Certification bodies

Certification bodies are specialist organisations that undertake independent, third-party assessments of conformance with established standards. In Australia and New Zealand, the Joint Accreditation System for Australia and New Zealand (JAS-ANZ) accredits certification bodies to audit and certify to particular standards, to provide an assurance that certification bodies are both competent and independent in regard to their certification activities.

## 2.3 Audit team

Audits will be carried out by a team nominated by the certification body, comprising a lead auditor/team leader and other auditors, who together, have suitable experience and expertise to carry out the audit. The process of selecting the team will be compliant with JAS-ANZ Procedure Number 26, Requirements for Bodies Providing Audit and Certification of Forest Management Systems (Issue No 3 February 2008) or its replacement.

## 2.4 Undertaking the audit

The main step in the certification process is the audit. During an audit, it is the job of the audit team to assess whether or not the management of the forest complies with the requirements of the Standard. This is done by collecting and analysing *objective evidence* of compliance against each requirement. Evidence can be collected through:

- examination of documents, such as management plans, monitoring records or data from surveys;
- observations of actual on-the-ground practices and conditions in the forest; and
- Interviews with staff, contractors and interested parties.

Information gathered from interviews should be verified by acquiring supporting information from independent sources. Non-verifiable statements should be identified as such.

The audit will be conducted accordance with the current JAS-ANZ Forest Management Scheme Rules.

The audit team should review all the audit evidence to determine whether forest management conforms to the requirements of the Standard. The audit team should ensure that any audit findings of non-conformity are well documented and supported by audit evidence.

There are two types of non-conformance:

- major non-conformances occur when forest management is failing to meet a relevant requirement; and
- minor non-conformances occur when forest management is partially failing to meet a requirement, or is where there is significant risk of a requirement not being met.

If minor non-conformances are found, the certification body may still award a certificate, provided that the forest manager identifies the root cause of the non-conformance and provides a plan acceptable to the certification body to meet the outstanding requirements within an agreed time frame. The certification body will verify that the plan is being/has been implemented and the requirements are being met during their regular surveillance visits.

If a major non-conformance is found, no certificate can be awarded until the requirement is met. If there is a substantial time-lag before the major non-conformance is addressed, a new audit may be required in order to achieve certification.

## **2.5 Site sampling**

Some large forest managers may operate over a large number of forest sites. In some circumstances, the entire organisation can be certified on the basis of a sample of sites within the defined forest area.

The basis for selection of sites for sampling is that:

- at least part of the sample shall be random;
- the full range of sites shall be formed into subgroups of like-forest sites on the basis of ecosystem, size of the forest, and tenure;
- a sample of sites shall be taken from each of the subgroups, and
- the minimum number of sites audited shall be sufficient to provide an appropriate statistical level of significance/confidence.

## **2.6 Surveillance audits**

After initial certification, a minimum of two surveillance audits of the certified forests and forest management system will be conducted over the 3 year certification cycle, preferably twelve months apart. This is a partial audit of the requirements, and is planned to cover all requirements over the three-yearly certification cycle. Some key requirements will be reviewed on an annual basis.

After three years, the certified forest manager must be reassessed.

## 2.7 Certification of Group Entities

The certification of Group Entities offer the opportunity for managers or owners of small forest areas to join together and gain benefits of increased scale, while either retaining or contracting out management control of their forest.

Certification requires that all group members commit themselves to complying with the requirements of the Standard. Group members must be organised under an entity that is capable of entering an agreement with a certification body on the group's behalf. The group must maintain a register of members with relevant data such as the area participating in the certification.

A separate Australian guideline has been prepared for the operation of group certification entities. A guideline is yet to be prepared for New Zealand. In the interim the Australian guideline should be followed.

## 2.8 Defined forest area

The forest manager will need to specify or define an area of forest (including land and water) to which the requirements of the Standard are applied. The defined forest area does not have to be a contiguous block or parcel of land. The forest manager will need to demonstrate management control over the defined forest area which allows them to achieve the requirements of this Standard.

The intent of the above guidance is to provide sufficient flexibility to allow forest managers to define the coverage of their New Zealand Forestry Standard certificate in a way which reflects their business needs and differing operational situations. Nevertheless, it is intended that this guidance should preclude an organisation omitting elements of its operation which should be properly included in its defined forest area from the scope of its certification.

In certain circumstances, two or more organisations may have forest management interests in the defined forest area. In some instances one organisation may have a custodial or ownership right whilst another organisation has a management or operational role. The organisation seeking certification against the Standard will need to demonstrate that it has management control over the forest operations through appropriate agreements or contracts, for the purpose of meeting the requirements of the Standard.

There are no performance requirements set in the Standard for the operation of nurseries and forest managers can exclude nursery sites from the defined forest area. Forest managers operating transport infrastructure outside the forest area can exclude such areas from the defined forest area. Areas such as log dumps, merchandising yards or ports can be excluded from the defined forest area except that Requirement 0.2 applies to the forest products that have come from the defined forest area.

## 2.9 Statistical monitoring to protect environmental, economic, social and cultural values

To protect the environment, society and the economy, we need monitoring systems that:

- (i) tell us there *is* a serious problem when one exists (thus avoiding over-confidence) and
- (ii) tell us there *is not* a serious problem when there isn't one (thus avoiding false alarms).

The first is crucial for detecting unacceptable impacts on environmental, economic, social and cultural values, the second for ensuring that the economy is not unnecessarily regulated. Certification procedures generally implicitly assume that, if no problem is observed, none exists; that is, they ignore the possibility of over-confidence. Experience has demonstrated the difficulty of detecting unacceptable environmental impacts against a background of natural variation, measurement error, and incomplete knowledge of biological or ecological processes. Furthermore, monitoring procedures do not attempt to determine whether the intensity of monitoring is excessive, laying an unnecessary burden upon a proponent.

To remedy this situation, the Standard requires that monitoring protocols are scientifically rigorous and sufficiently powerful to detect failed performance requirements and in time to apply remedial actions. As a result, those who propose a monitoring system must demonstrate that the system would be reasonably certain of detecting unacceptable impacts for a defined set of indicators, at an agreed level of reliability and commensurate with the consequences of the risks.

This approach should give stakeholders confidence that the monitoring program will reliably report the actual sustainability of the operation seeking certification while minimizing the burden upon industry of unnecessary monitoring.

## **2.10 Timeframe**

Special features of forest management are the long-term implications of management strategies and the lengthy process of the growth and development of a forest. Decisions made decades ago strongly influence the forests of today. Therefore, the requirements of the Standard oblige the forest owners, managers and certification bodies to assess forests on their present structure and layout and to consider the plans for forest management in the short, medium and long-term.

Where present structure and layout fail to meet the requirements of the Standard, forest managers will need to demonstrate through management planning documentation, design plans and on-going activities in the forest that they are taking active measures to achieve conformance with the requirements. They will also need to demonstrate that there is a timeframe for achieving full conformance based on sound management principles.

## **2.11 Size of ownership**

The level and complexity of management needed to meet the requirements of the Standard will depend on the scale, size, type and ownership of the forest being audited. In particular, small ownerships will not be expected to have the same level of documentation or management systems and procedures as larger ownerships. Certification bodies will take account of the size of the ownership and the scale and intensity of management and operations. The determining factor is the risk of the forest management system failing to effectively and consistently achieve the forest management performance requirements, at the existing levels of documentation or system development.

The complex nature of forests and forest management makes it impossible to provide an exact classification of scale. In particular, in some situations it will be the size of the forest and the extent of forest operations that is relevant (e.g. the scale and rate of harvesting) whereas in others it will be the size of the forest manager that will determine what is expected.

The following should be used as a guide:

**Small** - typically less than 1 000 hectares in size;

**Medium** - a forest area typically between 1 000–10 000 hectares in size; and

**Large** - a forest area greater than 10 000 hectares.

Some independent forest managers act for a number of clients each of whom owns a small forest. However, the total area managed by the independent manager is not small. For the purposes of certification in such instances, some of the forest management performance requirements may still be interpreted as for small ownerships, but others, particularly the management systems requirements, might be more appropriately interpreted as for medium and large.

## 2.12 Scale of requirements

Many of the requirements in the Standard, particularly those relating to forest operations and conservation, relate to proportions of the overall forest area. In applying such requirements, an appropriate scale must be decided which allows the forest manager to achieve the requirement in the way that is best suited to the nature of the forest.

This is particularly important for:

- large forest blocks, particularly single-species plantations, and
- Holdings which are under common management but are physically fragmented (e.g. in estates with several blocks of forest).

In large blocks of forest, it is acceptable to meet some requirements by concentrating management in one area provided that:

- all plans for implementing a requirement unevenly within the block are based on good practice which aims to meet the purpose of the requirement; and
- Wherever appropriate management is based on a design plan.

In holdings under a common management which are physically fragmented, it will normally be acceptable for the requirements to be met over the holding as a whole, not in each individual block provided that:

- plans for implementing requirements unevenly in different blocks are based on good practice which aims to meet the purpose of the requirement; and
- Wherever appropriate management is based on a design plan.

Other cases may arise which are not covered by this guidance. Such cases will be assessed by the certification bodies on a case by case basis.

## 2.13 Structure of Guideline

This guideline does not create additional normative elements. Rather, it is intended to add clarity through additional information and practical examples where appropriate. The guidance is set out in two sections:



Guide to verification - suggests whether a document/systems review should be supported by field verification or interviews with staff or stakeholders. It also suggests the types of documents and processes that are likely to provide an appropriate basis for the evaluation of compliance with the requirements. The suggestions are not exclusive, exhaustive or mandatory - certification bodies will not always need to use all the suggested methods, and may seek verification in other ways. Lastly, this section suggests some sources of information for audit evidence such as records and documents within the scope of the audit.

Guide to implementation - aims to help both the forest manager and the certification body to understand how requirements should be applied in practice. More information is provided to elaborate some requirements, the meaning of certain terms or phrases is explained, and examples of appropriate action are given.

The guidance for each of these sections is provided in up to four ways. Guidance is provided firstly for all forest managers irrespective of scale or type of forest. Secondly, guidance may be provided that only applies to large or large and medium forest managers. Where guidance is specific for the type of forest these are identified with sub headings for Native Forest or Plantations.

This guideline uses the definitions of terms from the Standard.

This guideline applies to the application of the Standard in New Zealand. Other guidelines may be required for its application to other jurisdictions.

## Section B

### *Guidance for Forest Management Certification*

#### **General Requirements**

The intent of these general requirements is to ensure that the Standard provides a single source of all of the requirements for certification. These general requirements have been included to ensure consistency with the JAS-ANZ procedure setting out requirements for bodies certifying forest management systems and for compatibility with the PEFC Chain of Custody Standard PEFC ST 2002:2013.

#### ***Requirement 0.1 Defined Forest Area***

##### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that the forest manager has adequate control over the defined forest area to allow for demonstration of compliance with the requirements of the Standard and to ensure that the defined forest area is correctly described and any changes are accurately monitored.

##### **Type of requirement**

Document-based evaluation.

##### **Basis of assessment**

That the appropriate agreements or contracts are in place to demonstrate control.

Maps of the defined forest area can be provided.

##### *Large and Medium Forest Managers*

A register of changes to the defined forest area exists.

##### **Indicators**

Land titles for freehold private land are held by the enterprise.

Legal agreements such as a license, forestry right or lease are held for all non-freehold land managed by the enterprise

Maps of the defined forest areas are available to the public by any means.

##### **GUIDE TO IMPLEMENTATION**

The forest manager must have effective control of the defined forest area to demonstrate compliance with all of the requirements of the Standard. Control may be directly or indirectly

through formal arrangements with third parties that can demonstrate compliance with the relevant requirements of the Standard.

These controls could include the simple contracting of some operations such as harvesting to a third party. That party must be required by contracts to abide by the forest managers' systems for control of compliance with the requirements of the Standard.

The forest manager is not allowed to identify operations or areas where the requirements of the Standard are not met and artificially exclude these from the defined forest area.

### **Sources of information**

Legislation and the associated instruments.

Land titles and legal agreements (leases, forestry rights, licenses etc).

Maps of the defined forest area.

The JAS-ANZ Forest Management Scheme Rules.

## ***Requirement 0.2 Chain of Custody***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that the forest manager has adequate control over the certified forest products and services to allow for demonstration of compliance with the requirements of the Standard and PEFC ST 2002:2013.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That the appropriate documents and procedures are in place to allow for the buyers of certified forest products to clearly demonstrate that they have been provided with products from a forest(s) within the scope of the forest management certificate.

That sufficient control over the forest products exists to minimise the risk that products from forests that are not covered by the certificate are mixed with the products from the certified forests either deliberately or accidentally.

#### **Indicators**

Documents clearly define the certification status of all forest products sold.

Processes are in place to reliably produce such documentation.

The risks of contamination with noncertified products has been identified and appropriately treated.

## **GUIDE TO IMPLEMENTATION**

The forest manager must document that the products sold are from the certified defined forest area. Control must be demonstrated up to the point of sale or transfer. Forest managers that have facilities outside of the defined forest area such as log yards or processing facilities must have a management system to demonstrate the compliance with this requirement at these sites.

### **Sources of information**

PEFC Chain of Custody Standard, PEFC ST 2002-2013.

## **CRITERION 1 – Systematic Management**

The intent of this criterion is to ensure that forest management is carried out within a framework that enables the forest manager to address the organisation’s management activities relevant to the forest management performance requirements, and is commensurate with the nature and scale of its business. It is designed to be compatible with the ISO International series of AS/NZS ISO 14001:2004 Environmental Management Systems standard. The management system framework is to be flexible and adaptable for forest managers at all scales, and to provide for continual improvement in management.

### ***Requirement 1.1 Policy***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure a policy commitment to the elements of well managed forestry on the defined forest area.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That a forest management policy or policies addressing forest management are in place, and are relevant to the nature, scale of ownership and impacts of the business.

That there is a commitment to compliance with relevant legislation and other requirements.

That there is ongoing development of awareness, personal commitment, motivation and leadership from top management or owner to systematic management and continual improvement in management performance.

That the forest manager demonstrates a long-term commitment to adhere to the requirements of the Standard.

#### **Indicators**

Forest management policy(s).

On-going programs or processes to communicate and reinforce commitment to the forest management policy(s) and environmental awareness to employees/staff/contractors.

#### **GUIDE TO IMPLEMENTATION**

The Forest Management Policy(s) might include statements on:

- the core values of the manager in relation to pursuing sustainable forest management consistent with the Standard’s requirements;
- an awareness of and commitment to continual improvement in performance outcomes;

- compliance with relevant regulations, laws and other criteria to which the manager subscribes, including payment of legally prescribed royalties, taxes, fees and charges and the requirements of codes of practice;
- respect for relevant international agreements which New Zealand has ratified and internationally agreed principles of sustainable forest management;
- minimising any negative impacts of forest management activities;
- key objectives and targets in relation to the criteria and requirements of the Standard;
- requirements of and communication with stakeholders;
- developing procedures to monitor and evaluate the performance (outcomes) of management and associated performance indicators; and
- education and training of staff and employees;
- recognition and respect for the rights of Maori under the Treaty of Waitangi

#### *Large and Medium Forest Managers*

- Encouraging support for the forest manager's forest management system by suppliers and contractors.

#### **Sources of information**

Regulatory authorities, government agencies and associated web sites and informative material.

AS/NZS ISO 14001:2004 Environmental Management Systems – Requirements with guidance for use.

Industry associations, professional institutions and groups.

Commercial databases.

### ***Requirement 1.2 Forest Management Plan***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure the development of a Forest Management Plan that establishes a strategic framework for the achievement of the requirements of the Standard and compliance with legal, and other requirements to which the organisation subscribes.

#### **Type of requirement**

Document-based evaluation

#### **Basis of assessment**

That the Forest Management Plan has been formulated and is in place.

That specific aspects and impacts of the organisation's operational activities have been identified, assessed and, where appropriate, mapped in relation to the requirements of the Standard.

That objectives, targets and procedures in relation to the forest management performance requirements are established for a range of the significant impacts. It is not required to have objectives and targets for all significant impacts consistent with ISO 14001. The significance of impacts is to be determined after the control measures have been assessed. Small growers can prepare objectives and targets for a limited number of the most significant impacts.

That legal and other requirements have been identified.

That monitoring processes are planned.

That stakeholder feedback has been sought and considered where applicable.

### **Indicators**

Forest Management Plan (noting this may be made up of multiple documents and systems).

List of identified environmental, economic, social and cultural values relevant to forest management performance criteria and requirements.

List of legal and other requirements.

Maps of specific aspects and impacts.

The protection and maintenance of significant environmental and other special values are considered in the Forest Management Plan.

Guidelines/procedures for controlling and minimising environmental impacts.

### **GUIDE TO IMPLEMENTATION**

It is recognised that the Forest Management Plan including objectives and targets, will vary to accommodate forest type, regional conditions, tenure of the defined forest area and management intent. It is not the intent of this requirement to determine the specific format or content of the Forest Management Plan, and the forest manager has scope to flexibly define the planning process and documents to suit his/her management processes, provided the basic forest management performance requirements of the standard are met. The Forest Management Plan can be made up of a series of documents and electronic systems and tools that collectively form the Plan.

A list, or register, of legal requirements pertaining to forest management activities would facilitate keeping track of compliance with such requirements. Legal requirements may include:

- those specific to forest operations;
- environmental laws;
- health and safety laws;
- authorisation, licences and permits; and
- Property rights and vestment of the resource.

Management plans or equivalent instruments might include maps, including relevant zoning, of the defined forest area, and environmental and other special values.

## ***Requirement 1.3 Implementation***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure the forest manager can demonstrate capacity to successfully implement the management system.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

Those operational controls for achieving objectives and targets of management and meeting the requirements of the Standard are in place.

That management plans or equivalent instruments and procedures for forest management operations and activities are documented, kept up-to-date, and can be readily located or viewed electronically.

That contingency/emergency plans are in place to manage unexpected situations.

That human and financial resources, specialised skills, and technology essential to implementation and control of the management system is appropriate to the type and scale of ownership.

That roles, responsibilities and authorities for staff and workers are defined.

That managers, supervisors and workers (including contractors and their workers and self-employed persons) understand their responsibilities and accountabilities and are sufficiently trained in their various tasks.

That an appropriate means for communication of relevant procedures and requirements to staff and workers, suppliers and contractors, and reporting of outcomes of forest management activities and incidents is established.

#### **Indicators**

Register/list of individual and group responsibilities and accountabilities.

Records of training of forest field workers in:

- environmental awareness
- management process skills
- proper application of operational procedures
- key healthy and safety requirements of their tasks

Specific operational plans, procedures, controls and guidelines relating to the requirements of the Standard.



## GUIDE TO IMPLEMENTATION

Appropriate actions might include:

- establishing a document control process that ensures that relevant documents are up-to-date, complete and appropriately authorised, can be readily located or viewed, and periodically reviewed and revised as necessary, and that obsolete documents are promptly removed;
- preparing emergency and accident plans that include prevention and mitigation of environmental impacts;
- establishing and ensuring minimum competency standards for key jobs and tasks;
- training programs for employees/staff and workers, suppliers and contractors so that they are aware of their responsibility and accountability, are motivated in relation to meeting forest management performance requirements, that key operators and staff and workers within the organisation identify and understand the legislative and other requirements affecting their activities, and are competent for the tasks they are required to perform; and
- Providing operational plans for individual operations that incorporate a map(s) and identify relevant operating conditions and controls for specified activities - in terms of operational plans, the harvest plan will play a key role.

### *Native Forest*

A sustainable forest management plan or permit issued under Part 3A of the Forest Act is in place for any native forest harvesting. Operational plans might also include: on-site assessments of fauna, flora, water, soil and timber values for each area, coupe or compartment of forest proposed for harvesting. The harvest plan might also include the following parameters where relevant: silvicultural treatments, prescriptions for the protection of environmental values such as, flora, fauna and soil, and codes of practice covering licensing requirements, planning provisions for harvesting, tree marking and retention, wet weather controls, pollution controls, and protection of important natural and cultural heritage values.

### *Plantations*

Operational plans might include the following parameters where relevant, silvicultural treatments, prescriptions for the protection of environmental values, codes of practice, planning provisions for harvesting, wet weather controls, pollution controls, identified hazards and controls and protection of important natural and cultural heritage values.

## ***Requirement 1.4 Monitoring and Corrective Actions***

### GUIDE TO VERIFICATION

The intent of this requirement is to identify areas and causes of non-conformances, implement remedial actions and implement or modify controls to avoid repetition of the non-conformance to support continual improvement in forest management.

### **Type of requirement**

Document-based evaluation with verification in the field.

### **Basis of assessment**

That appropriate auditing, monitoring and reporting procedures are in place for verifying legal compliance and conformance with management plans or equivalent instruments and procedures.

That compliance/conformance against relevant environmental law, regulation and established performance indicators can be demonstrated, and/or that appropriate and effective corrective action can be demonstrated in response to identified non-conformance.

That monitoring of the significant/key aspects of the forest resource and forest management activities is periodically performed.

That monitoring procedures allow for comparison of change over time.

That legible, identifiable and traceable records of monitoring and evaluation of management are maintained.

#### *Large and Medium Forest Managers*

That long-term (performance-based) monitoring of forest management outcomes is undertaken for relevant requirements so that adverse impacts that may arise can be detected and to ensure that procedures and strategies are appropriate.

That reliability/error rate is known (where it can be established statistically).

### **Indicators**

Records of monitoring outcomes.

Documentation of audits, monitoring and evaluation of the key impacts of the organisation's activities.

Documentation of changes in procedures resulting from corrective and preventative action.

Communications and reports of the results of monitoring to those within the organisation who are responsible for forest management performance.

### **GUIDE TO IMPLEMENTATION**

Measuring, monitoring, evaluating, and maintaining appropriate records are key activities of management to ensure that management is performing in accordance with the stated forest management arrangements and performance requirements. Maintaining records of monitoring and evaluation, and subsequent reporting on performance of management, its achievements, and progress towards meeting the forest management performance requirements are key elements of the management system for achieving continual improvement.

Routine monitoring may detect compliance failures that are due to chance or that are not symptomatic of poor practice. Conversely, they may, by chance, fail to detect important breaches of practice. The Standard recognises the need to ensure that the reliability with which breaches of compliance will be detected is known and is appropriate to the scale and intensity of operations.

The Standard utilises the approach of setting minimum performance thresholds in key areas but builds on this approach by establishing a framework for continual improvement which incorporates a process within which trends in monitoring data trigger a range of responses appropriate for the importance of the change. For example, when unwanted trends in monitoring data are identified (e.g. a substantial decline, a consistent decline, or a run of results outside a control limit), it will trigger an investigation to identify the cause of the trend and specify appropriate remedial action, if any.

Under this approach the discovery of a trend of concern would not in itself represent a breach of sustainable practices. Rather, certification bodies should establish that:

- assessment results are regularly plotted; and
- trends in the data are noted and appropriate action taken.

Setting performance indicators of forest management to be monitored will allow the outcomes of forest management to be assessed for their effectiveness.

Routine monitoring may detect compliance failures that are due to chance or are not symptomatic of poor practice or they may, by chance, fail to detect important breaches of practice. The Standard recognises the need to ensure that the reliability with which breaches of compliance will be detected is known and is appropriate to the scale and intensity of operations.

This approach to monitoring aims to provide a system that is reasonably certain of detecting important changes, if they exist, and avoid the over confidence of monitoring systems that assume if no problem is detected – none exists. Furthermore, it provides a basis for determining whether monitoring effort is excessive in order to minimise unnecessary monitoring (and thereby costs).

#### *Large and Medium Forest Managers*

In recognition of the crucial role that the environment plays in forest management activities, the forest manager may report to stakeholders on performance in relation to designated forest management requirements. This provides a means of demonstrating corporate responsibility to the broader community.

Certification bodies should establish that reliability/error rates are known (in circumstances in which they can be established statistically).

A large number of the specific Standard requirements do not lend themselves to statistically reliable monitoring (including many of the requirements under Criteria 1, 2, 7, 8 and 9). Statistical analysis should be restricted to situations in which this approach is possible, meaningful and practical.

Appropriate actions might include:

- developing strategies for routine monitoring to build on research findings (for example intensive research might be used to establish the effectiveness of prescriptions in moderating particular impacts, strategic monitoring in a subset of managed areas could then be used to support extrapolations of research findings about moderating impacts to the defined forest area); and
- program of continual improvement.

There are two key aspects to implementing monitoring, measuring and evaluation processes:

1. Routine monitoring of compliance of plans and management practices with legal requirements to ensure that planning and management practices are in accordance with planned arrangements and support the achievement of forest management performance criteria.

Appropriate actions might include:

- monitoring compliance with legislation and other requirements to which the organisation subscribes;
  - evaluation of audit reports of compliance or non-compliance with plans and operational procedures;
  - identifying and correcting deficiencies in forest management practices where non-compliance is identified; and
  - maintaining appropriate monitoring, evaluation and audit records
2. Routine monitoring of the performance and outcomes of forest management in relation to forest management requirements that is objective, verifiable and reproducible, and that is commensurate with the size and nature of the organisation's activities.

This approach provides the forest manager with a monitoring “tool” to identify deficiencies in forest management performance at an early stage, and fix any problems before they become entrenched or irreversible, thus reducing potential economic and environmental costs.

Appropriate actions might include:

- routine monitoring of forest management (performance) outcomes using a systematic approach including stakeholder participation where appropriate;
- regularly recording and visually plotting assessment results as trends of change to provide a baseline of typical patterns;
- setting agreed forest management performance indicators and measures, “management control limits or thresholds” and “acceptable patterns” where the reliability/error rate can be established statistically to determine whether performance of management is “within” or “outside” these, as indicated by the monitored trends of change in a designated value;
- significant changes in the nature or condition of a value (that is outside the agreed management control limits) are noted and root causes investigated and identified; and
- remedial management actions are taken when a significant or “abnormal” adverse trend is detected, or, management can be enhanced when a trend indicates improvement in a particular value.

## ***Requirement 1.5 Review***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure the continuing suitability, adequacy and effectiveness of the forest management system and its procedures and to ensure continual improvement in management performance and forest management outcomes by establishing and maintaining appropriate mechanisms for evaluation and review.

#### **Type of requirement**

Document-based evaluation

#### **Basis of assessment**

That the results of audits of the management system and monitoring of forest operations and other information are periodically evaluated and reviewed.

That the components of the management system, including monitoring and feedback mechanisms for continual improvement, are periodically evaluated and reviewed.

That changes to the management system are implemented on the basis of these reviews, as well as changing circumstances including changing legal requirements, lessons learnt from operational experience, market preferences, and the views of stakeholders.

Whilst the main focus of this requirement is to ensure continual improvement in the forest management system, it must be recognised that the status quo on certain forest management elements may be current best practice or a reasonable outcome.

#### **Indicators**

Records of review and evaluations.

Records of changed practices and management system elements.

Records of investment in research and development and technology transfer.

### **GUIDE TO IMPLEMENTATION**

Management review may address the possible need for changes to policy, management objectives and targets, management plans or equivalent instruments and operational procedures, monitoring and evaluation, and other elements of the management system to meet changing circumstances and the commitment to continual improvement.

As part of the review process, appropriate actions might include:

- reviewing changes in legal requirements, advances in scientific research and technology, lessons learnt from operational experience, market preferences, and changes in the expectations and views of stakeholders;

- an evaluation of management system components including review procedures and feed back mechanisms for continual improvement;
- a review of relevant research and development (R&D); and
- Implementation of changes to the system as required.

Such review would occur at intervals appropriate to the scale and extent of the defined forest area and level of activity in that area. Review of the management system during periods where there were no forest operations underway or planned would only be general in nature.

Where the Forest Management Plan is a composite of plans and any of the component plans are prepared by other organisations the reviews should be undertaken by that organisation. The forest manager will only be required to undertake reviews of other organisation's plans where it is appropriate and it is clear that reviews have not been undertaken and there are issues of currency or accuracy evident that are able to be addressed.

## ***Requirement 1.6 Research***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that new knowledge about the forests within the defined forest area and forest management activities are obtained and used by the forest manager.

#### **Type of requirement**

Document-based evaluation

#### **Basis of assessment**

That the results of research and new other information are periodically evaluated and reviewed.

That change to the management system is implemented on the basis of advances in scientific research and technology.

That the forest manager is making commitments to research by direct action or association.

#### **Indicators**

Records of research undertaken.

Records of changed practices and management system elements.

Records of investment in research and development and technology transfer either directly or through contributions to research and development organisations such as the New Zealand Forest Growers Levy Trust.

## **GUIDE TO IMPLEMENTATION**

Field trials and experimental operations can be conducted directly or in association with grower organisations.

An active investment in relevant R&D, whether directly or in co-operation and support for industry R&D Corporations and Co-operative Research Centres, would demonstrate pro-activity contributing to research.

## **CRITERION 2 – Stakeholder Engagement**

The intent of the requirements under this criterion is to facilitate proactive and cooperative engagement to support the implementation of this Standard by a local, informed and active stakeholder base.

### ***Requirement 2.1 Identify stakeholders***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to demonstrate that the forest manager knows who the relevant stakeholders are.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That a systematic and documented basis for identifying stakeholders has been implemented.

That a list of relevant stakeholders and contact information is established and maintained.

That no systematic or significant omissions are identified.

#### **Indicators**

List of stakeholders identified.

#### **GUIDE TO IMPLEMENTATION**

Identification of stakeholders should aim to ensure that participating neighbours and stakeholders are representative of a wide range of interested parties. It is important to consider the broader public interest where decisions are likely to be seen as having regional significance.

Relevant stakeholders may include:

- neighbours and local residents that may be impacted directly by forestry operations ;
- local government bodies and regulatory authorities; and
- suppliers and customers.
- Tangata whenua
- Landowners of non-freehold land under forest management

#### *Large and Medium Forest Managers*

Relevant stakeholders may also include:

- community and forest user groups and organisations with an environment/conservation, economic, social or heritage interests in the defined forest area;
- media;



- unions and employees;
- regional and local tourism associations.

The methods used to identify possible stakeholders will vary, depending on the resources and time available to the forest manager and the types and location of the potential stakeholders and a number of the methods could be used together.

### **Sources of Information**

Sources of information that can be used to identify stakeholders include:

- local government authorities;
- Government agencies and territorial local authorities
- Local authority rating records;
- Iwi authorities and other tangata whenua organisations
- media reports;
- direct correspondence;
- local industry or commerce groups;
- relevant local individuals (neighbouring farms and residents); and
- local and regional community groups, environment and conservation groups and natural interest groups.
- Terranet website (online property information)

## ***Requirement 2.2 Stakeholder Engagement Plan***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure the forest manager has a documented process for engagement with stakeholders.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That the forest manager has documented processes for engagement with stakeholders.

That processes for stakeholder interaction and feedback are considered in the plan.

That the plan includes a dispute resolution process.

The plan includes the communications expected with stakeholders and the general public including through the release of information about the defined forest are and its management.

**Indicators**

A Stakeholder Engagement Plan exists.

**GUIDE TO IMPLEMENTATION**

The stakeholder engagement planning process may be integrated with other planning processes.

It is recognised that the scale of the forest manager will determine the complexity and scope of the Stakeholder Engagement Plan.

The Stakeholder Engagement Plan may include a Good Neighbour Charter or reference to the Memorandum of Understanding between the NZ Forest Owners Association and Federated Farmers.

Disputes can result in delays and conflict. The resolution of disputes contributes to ensuring both stakeholders' and the forest manager's needs are addressed and satisfied to some mutually agreeable extent. Conflict resolution can often be difficult to achieve and in some instances, may not satisfy all parties. However, genuine attempts to resolve conflicts, is an essential part of any forest management system.

Procedures for dealing with complaints and disputes might cover:

- identification and recording of complaints and disputes received (e.g. a complaints and disputes register);
- a mechanism for substantiation of complaints and disputes and identification of immediate and longer-term corrective and preventative actions;
- documentation of agreements reached to resolve disputes; and
- documentation of corrective and preventative actions taken and assessment of their effectiveness.

The following guidelines may be used in resolving conflicts:

- make sure both parties are clear about the issue/s that are causing the conflict;
- try and understand the other parties' point of view;
- explain your point of view and provide all the information behind your standpoint;
- try and identify areas where either party may be prepared to compromise; and
- consider using a mediator both parties believe to be neutral.

***Requirement 2.3 Stakeholder Participation*****GUIDE TO VERIFICATION**

The intent of this requirement is to provide opportunities for stakeholders to meaningfully participate in the forest management planning process and to influence its outcomes. However, this does not mean that decision-making should rest with stakeholders. Rather, the requirement provides a mechanism for the forest manager to demonstrate that public input is taken seriously by being responsive to and respectful of this input.

The rights of private ownership of land and other property rights should be recognised in the application of this requirement.

In the context of this requirement, it is noted that the extent of relevant stakeholder interests in publicly owned forest will be significantly broader than will be the case for privately owned forest.

### **Type of requirement**

Document-based evaluation and interviews with stakeholders.

### **Basis of assessment**

That communication with stakeholders can be demonstrated.

#### *Large and Medium Forest Managers*

That relevant stakeholders have been invited to participate in the development of the relevant components of the Forest Management Plan and reasonable efforts have been made to encourage their participation.

That stakeholders have access to relevant background information to support and encourage their interest in participating in the development of the management plan or equivalent instruments.

That stakeholder participation processes have clearly defined operating rules. Depending on the scale of the consultation this may include the scope of activities; goals; timelines; selection criteria for participants; roles, responsibilities and obligations of participants; decision making methods; information access; and dispute resolution, appropriate to the scale of the consultation being undertaken, and the size and tenure of the defined forest area. The participants have an opportunity to influence the process's operating rules.

That stakeholder participation processes make allowances for cultural differences of participants.

That grievances and disputes have been addressed appropriately.

### **Indicators**

List of stakeholders contacted, including those that choose not to participate.

Record of communication to and from stakeholders regarding participation in the forest management planning process, including information provided to stakeholders.

Record of input from stakeholders to the management planning process and the forest manager's consideration and response to stakeholder input, including any processes to resolve disputes.

Level of stakeholder and community support for forest management.

## GUIDE TO IMPLEMENTATION

It is recognised that stakeholder participation is a multi-lateral process that may operate on different scales and time periods for different dimensions of the forest management planning process. The forest manager has flexibility to define appropriate methodologies which are consistent with its particular operating environment. This might build on existing stakeholder participation processes addressing any gaps as necessary. Stakeholder input could include work carried out by other bodies under legislative or regulatory requirements such as planning approvals under local government processes or regional planning processes.

Relevant background information to support and encourage stakeholder participation in developing forest management planning might include provision of relevant information about the defined forest area /forest, its values and proposed management.

It is recognised that forest managers cannot ensure the participation of all relevant stakeholders in the forest management planning process. Forest managers will need to document that they have made diligent efforts to engage stakeholders in an appropriate way.

It is also recognised that planning processes can raise issues and concerns outside the scope of the forest managers' responsibility or control. Clear articulation of the operating rules, particularly regarding the scope of the forest management planning process, will assist in demonstrating appropriate management of this issue.

Attempts made to identify and communicate with stakeholders, as well as actual communication should be documented and the documents retained to provide evidence of the forest manager's efforts to identify relevant stakeholders. The thoroughness of this process will not only help protect the interest of stakeholders, but assist in development of the forest management processes.

Methods might include:

- letter drops (e.g. to surrounding properties);
- email communications to individuals or groups;
- formal documented communications and enquiries to boards, departments and groups;
- direct contact via the telephone;
- advertisements in local, regional and national newspapers;
- public meetings and hui;
- face-to-face communication with potential stakeholders or persons that may have additional information.
- consultation in accordance with the provisions of the Resource Management Act 1991, Heritage New Zealand Pouhere Taonga Act 2014, and other relevant legislation
- participation in public forums
- consultation with forest user groups eg recreation clubs
- permanent or temporary signs

Consultation with tangata whenua should be undertaken with respect to tikaanga Maori.

## ***Requirement 2.4 Stakeholders Affected by Forest Operations***

### **GUIDE TO VERIFICATION**

The intent of this requirement is for forest managers to be good neighbours by providing relevant information and notification of operational activities to adjacent landholders, regular users of the defined forest area and local communities, and by seeking outcomes that minimise adverse impacts.

#### **Type of requirement**

Document-based evaluation and interviews with neighbours, regular users and local communities.

#### **Basis of assessment**

That the forest manager has communicated and consulted with affected stakeholders on forest management operations that may have an impact on adjoining lands.

That the forest manager has communication material that explains the benefits of sustainable forest management.

#### **Indicators**

Record of communication/consultation with neighbours and regular users.

### **GUIDE TO IMPLEMENTATION**

Planning to assess the possible impact of forest operations on immediate neighbours, their property and assets, and those parties who regularly access the defined forest area for legal and traditional uses, is good practice. Once the impacts are identified, appropriate operational controls can be developed to manage the identified risks.

Forest management operations, that could adversely impact on neighbours and regular users, include:

- application of pesticides (e.g. spray drift and water quality);
- pest animal control including baiting (e.g. non-target species);
- harvesting and associated operations (e.g. visual amenity, noise and water quality);
- road and other infrastructure construction (e.g. dust and noise); and
- fire management (e.g. smoke haze and fence damage);

Notifying neighbours and regular users of proposed operations provides a high level of transparency through which stakeholders can gain confidence in the forest manager, leading to an on-going working relationship. Even if the operations are unlikely to cause an unacceptable impact, it is good practice to keep neighbours and regular users informed prior to conducting major activities in the area. It is also necessary for forest managers to notify the appropriate regulatory authorities of any operations that require their prior notification or approval.

Communication with immediate neighbours and regular users can be achieved through the means listed under Requirement 2.3.

## ***Requirement 2.5 Records***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to encourage forest managers to record communications with stakeholders so as to add to the stakeholder list and provide evidence that can be used to improve stakeholder engagement.

The Stakeholder Engagement Plan will provide guidance on the types of communications to be recorded and the process to be used. Routine and low value communications can be treated differently to critical communications.

#### **Type of requirement**

Document-based evaluation and interviews with stakeholders.

#### **Basis of assessment**

That every reasonable effort is taken to record stakeholder communications.

#### **Indicators**

Record of communication/consultation relating to all forest management including any actions or commitments agreed through consultation, and the identification and handling of any complaints, disputes and grievances.

### **GUIDE TO IMPLEMENTATION**

Stakeholders will expect that their communications will be adequately treated and considered. By maintaining a recording process forest managers will be able to demonstrate and acknowledge the receipt of communications. The Stakeholder Engagement Plan will have a risk assessment process to ensure that the cost of recording all communications can be balanced with the cost of missing details on vital communications.

## ***Requirement 2.6 Public Disclosures***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to encourage forest managers to communicate with stakeholders about the Forest Management Plan and their compliance with the Standard.

The Stakeholder Engagement Plan will identify what other information the forest manager will make available publicly.

**Type of requirement**

Document-based evaluation.

**Basis of assessment**

That summaries of the Forest Management Plan and audit reports are available publicly.

That other public disclosures identified in the Stakeholder Engagement Plan are made.

**Indicators**

Records of disclosures are available.

Where they exist websites contain the required documents for review and/or download.

For companies that do not have a website, the documents are made readily available in hard or electronic copy on request.

**GUIDE TO IMPLEMENTATION**

Audit reports or summaries of the reports can be made available through the certification body or the forest manager.

Where there are costs associated with public disclosure a forest manager can take reasonable steps to recover these costs.

### CRITERION 3 –Biodiversity Values

The intent of the requirements under this criterion is to maintain or enhance the elements of the biodiversity of forests, including where relevant:

- ecosystem diversity, by maintaining the range of ecosystems across the landscape;
- species diversity, by maintaining forest dependent species; and
- genetic diversity, by maintaining representative species populations across their range.

While the criterion is largely focused on native forest management, it is relevant to some aspects of plantation management such as the management of remnant native forests and for those biodiversity values present within the planted forests.

The criterion applies to four levels of biodiversity values and the requirements are different for each.

Level	Management Required	Requirement Number
Biodiversity	Identify	3.1
Structural elements important for biodiversity	Identify, Maintain or Enhance	3.1, 3.2
Biodiversity priorities	Identify, Maintain or Enhance, Monitor and Review	3.1, 3.2, 3.5, 3.6
Significant Biodiversity Values	Identify, Maintain or Enhance and Restore	3.3, 3.4

Biodiversity decline is a significant issue in New Zealand.

(see New Zealand’s biodiversity strategy at:

<http://www.biodiversity.govt.nz/picture/doing/nzbs/Index.html>.

See also Summary of changes to the conservation status of taxa in the 2008–11 New Zealand Threat Classification System listing cycle, Hitchmough, R, June 2013, New Zealand Department of Conservation, and associated species threat lists sourced from

<http://www.doc.govt.nz/about-us/science-publications->).



This criterion of the Standard is aimed to ensure management of certified forests does not contribute to the decline of biodiversity values and that existing biodiversity values are maintained and enhanced to support biodiversity conservation.

### ***Requirement 3.1 Identify Biodiversity Priorities***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to identify biodiversity values and establish priorities for its maintenance or enhancement during forest management planning and operations.

Structural elements are those non-living components of ecosystems that are important for their function. Key elements should be identified and included in prioritisation where appropriate.

#### *Plantations*

In the context of this requirement, it is noted that commercial plantations are managed primarily for wood production not for biodiversity conservation. However, as structurally diverse and relatively long-lived crops, plantations do provide some biodiversity conservation benefits both through the retained native vegetation remnants imbedded within plantations, and also the native understory and associated ecosystems that develop under the plantation canopy. The 20+ years between crop rotations have been found to support a wide range of biodiversity values including:

- A range of indigenous species which can colonise plantations between harvest, including threatened species such as kiwi, weka and native frogs;
- Species that make use of habitat provided by harvested areas, such as the New Zealand falcon and a range of invertebrates;

Plantations can also serve as connecting areas between isolated patches of native forest, which may be important for some species.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That a systematic and documented basis for identifying biodiversity values has been implemented prior to operations/activities being undertaken that have the potential to impact on species or communities.

That an assessment of the priorities for management of the biodiversity has been completed.

#### **Indicators**

Records of review of biodiversity studies, records and relevant information.

Lists and mapped locations of biodiversity values present, including assessments of species abundance and habitat condition where possible.

Key structural elements relevant to biodiversity values are identified and managed where prioritised.

Lists of biodiversity priorities are appropriate for the scale, intensity and nature of the defined forest area.

The aspects and impacts of forest operations on biodiversity priorities have been recorded.

*Large and Medium Forest Managers*

Records of consultation with public land managers, competent professional personnel and relevant stakeholders.

**GUIDE TO IMPLEMENTATION**

Biodiversity is defined very broadly by the Standard. Forest managers are not expected to know and record every species of every life form present in the defined forest area. The identification can be limited to include:

- the types of native vegetation (or ecosystems), communities present and their respective growth stages; and
- the types of terrestrial and aquatic flora and fauna species present.

The lists of species known to be present in the defined forest area may be compiled and maintained by the forest manager or by other relevant authorities.

Identification and prioritisation may be carried out over a period of time, however, it must be available for an area before forest operations can commence. It should be recognised in the context of this requirement that new species or information are sometimes encountered during forest operations and identification should be considered an ongoing process.

This information can be collected by employees, external consultants, or experts on behalf of the forest manager or relevant authorities.

Information concerning biodiversity priorities can be recorded in the Forest Management Plan or as aspects and impacts or as separate biodiversity plans.

Biodiversity priorities can include species that are identified as Significant Biodiversity Values where these occur within the defined forest area and are affected by forest operations.

*Large and Medium Forest Managers*

Information concerning biodiversity should include records of consultation with land managers, experts and relevant stakeholders.

Information on biodiversity should be reviewed at least every five years, or over a shorter time period if new significant information is available.

Other appropriate actions might also include:

- use of Department of Conservation and Regional Council expertise for advice on values at appropriate scales (regional and site specific where information is available);
- use of accredited consultants to advise and recommend action on values; and
- a co-operative approach to information sharing in a regional context on appropriate values to be protected and maintained.

Appropriate actions might also include procedures, including long-term research to actively identify biodiversity and to assess priorities.

### **Sources of information**

The identification of biodiversity on an Ecological Region basis is a desirable basis for planning assessment, however it is recognised that data which transcends individual ownerships is typically only available on a regional basis.

Use can be made of existing information to determine the level of biodiversity in a region in which a forest manager is operating. Sources of information that may be utilised include:

- lists of threatened species and communities in the region;
- biodiversity surveys, observations and assessments undertaken by, or for the forest manager;
- information and advice from Department of Conservation or specialist Regional Council staff
- Regional and District Plan Significant Natural Areas maps (where mapped);
- national scientific studies and reports (for example the Protected Natural Area Programme (PNAP) and Significant Natural Areas (SNA) programme in New Zealand);
- work carried out by other bodies/organisations under legislative or regulatory requirements;
- relevant databases, atlases and maps and GIS coverage;
- significant natural areas and protected natural area programmes in New Zealand; and
- national and regional biodiversity strategies;
- New Zealand Inventory of Biodiversity, Canterbury University Press, Edited by Dennis P. Gordon. (3 Volumes, published June 2009 – April 2012);
- information collected during the consultation process with regulators, the various level of government, interest groups, recognised experts and individuals local experts and stakeholder groups;
- habitat modelling.

Guidance on priorities is provided in the document ‘Protecting Our Places, Information About the Statement of National Priorities for Protecting Rare and Threatened Biodiversity on Private Land’, MfE, April 2007.

The NZFOA with advice from ecologists has prepared national guidelines on the handling of rare and threatened species in plantation forests. (refer [www.rarespecies.nzfoa.org.nz](http://www.rarespecies.nzfoa.org.nz)).

## ***Requirement 3.2 Maintain or Enhance Biodiversity***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to contribute to a mosaic of diverse habitat types at the regional level which aims to enhance biodiversity priorities in the short, medium and long-terms and to acknowledge and consider threatening processes.

#### **Type of requirement**

Document-based with verification in the field.

#### **Basis of assessment**

That forest management planning and forest operations take into account fragmentation and connectivity of forest cover and the presence of existing native vegetation.

That processes that could threaten biodiversity values are identified, considered in the Forest Management Plan and managed, subject to the forest manager's authorities, where they are occurring on the defined forest area.

That plans demonstrate an intention and strategy to maintain or enhance spatial forest cover of native vegetation in accordance with biodiversity priorities.

That plans demonstrate a strategy to achieve a mosaic of growth stages on the defined forest area over successive rotations, where required to achieve identified biodiversity priorities.

#### **Indicators**

Records of extent and age and/or growth stage structure of each forest type.

Records of forestry processes that could threaten biodiversity values within the defined forest area.

#### *Large and Medium Forest Managers*

Plans that demonstrate an intention to maintain or enhance spatial forest cover of native remnants in accordance with biodiversity priorities and taking account of risk arising from fire and damaging agents.

#### *Native Forest*

Plans that demonstrate a strategy to achieve a mosaic of growth stages at the local scale in accordance with biodiversity priorities and taking account of risk arising from fire and damaging agents

### **GUIDE TO IMPLEMENTATION**

The area (hectares), age class and growth stage of forest and its location within the landscape contributes towards the protection and maintenance of biodiversity priorities. The need to establish and/or maintain forest cover and consider its spatial configuration, will depend on the

impact forest operations could have on the biodiversity priorities present in both the defined forest area and in the surrounding region.

Some biodiversity priorities will be unaffected by the spatial configuration or age class of the production forest and these may have to be maintained or enhanced by other means.

The magnitude of the impact will likely depend on the size of the operations being conducted. Appropriate actions might include:

- providing links or corridors between dedicated reserves or other protected areas where required; and
- providing for the temporal and spatial distribution of forest harvesting operations throughout the forest ownership consistent with economic and operational constraints.

#### *Native Forest*

Appropriate actions might also include:

- providing a diversity of horizontal and vertical structures such as uneven-aged stands (consistent with management objectives and forest types).

This may consist of retention of buffer strips to protect waterways and possibly the establishment of wildlife corridors, where needed.

In some cases, regional strategies or regulatory requirements may already be in place controlling the retention of forest types or mixes. In these instances, the forest manager is obliged to comply with these requirements. Where regional priorities and strategies have not been established, forest managers might consider priorities based on maintaining important elements of forest structure and growth stages over time within the defined forest area.

Changes in the mix of forest type, cover and structural growth stages (such as through unplanned fire or other catastrophic events) should be reviewed in relation to their impact on the protection and maintenance of biodiversity priorities and taken into account during the forest management planning process and reviews of forest management performance. The results of the monitoring should be used to update the Forest Management Plan, if required. Aerial photography, ground survey recording and mapping may be used to provide the information required.

#### *Plantation*

The nature of plantations are such that maintaining a mosaic of age classes is not seen as making the same contribution to biodiversity values as might be case for native forests, nevertheless, having some structural diversity is a contribution at the regional level. Forest managers might consider this requirement's consistency with their economic imperative for plantations and any need to maximise regional diversity of age classes.

Areas of plantation of a single or similar age class can be harvested in a single operation where biodiversity priorities are unaffected.

Changing configuration of plantations can be a long-term undertaking where present structure and layout do not meet the requirement. Where changing the age class configuration of a

plantation forest is identified as necessary to protect biodiversity values, a plan is in place to create a more diverse age class over successive rotations.

### **Sources of information**

Assistance in determining the need for and the correct type of forest configuration and type can be obtained from:

- Government agencies;
- Forest Management Plan;
- regional biodiversity plans and strategies;
- regional environmental planning schemes or equivalent instruments; and
- experts or consultants knowledgeable in the area.

The information identified and the sources used should be documented. The findings and conclusions reached concerning the establishment and maintenance of forest cover needs to be reflected in the Forest Management Plan and related procedures. The Forest Management Plan may include a record of the forest age class, growth stage and structure.

## ***Requirement 3.3 Identify Significant Biodiversity Values***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to identify Significant Biodiversity Values to support their maintenance or enhancement during the conduct of forest management planning and operations.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That a systematic and documented basis for assessing the presence of Significant Biodiversity Values has been implemented prior to operations/activities being undertaken that have the potential to impact on species or communities.

That assessment of their significance is undertaken at the appropriate scale and based on the appropriate sources of knowledge.

#### **Indicators**

Records of the presence or likelihood of presence of Significant Biodiversity Values.

Lists and mapped locations of identified Significant Biodiversity Values, including assessments of species abundance and habitat condition where possible.

Records of reviews undertaken in light of new information on Significant Biodiversity Values.

Record of estimates of the abundance and condition, where applicable, of Significant Biodiversity Values within the defined forest area.

## **GUIDE TO IMPLEMENTATION**

An assessment must be carried out to determine the presence of the Significant Biodiversity Values.

The findings of the assessment should be documented, along with the sources of information investigated, even if no information was identified.

### **Sources of information**

Use can be made of existing information to determine the Significant Biodiversity Values in a region in which a forest manager is operating. Sources of information that may be utilised, is listed under requirement 3.1.information and advice from Government agencies.

## ***Requirement 3.4 Maintain or Enhance Significant Biodiversity Values***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers utilise appropriate management practices in the defined forest area to protect and maintain and where possible enhance Significant Biodiversity Values.

#### *Plantations*

In the context of this requirement, it is noted that commercial plantations are managed primarily for wood production not for biodiversity conservation. However, where a Significant Biodiversity Value exists within a plantation estate the forest manager must take appropriate actions to maintain it, where commercially practicable. Appropriate actions can be identified in relevant recovery/action plans for the value.

### **Type of requirement**

Document-based with verification in the field.

### **Basis of assessment**

That identified Significant Biodiversity Values are considered and included in forest management planning processes for their maintenance or enhancement during forest operations.

That the Forest Management Plan and forest operations programs are consistent with relevant management prescriptions and guidelines for the conservation, and recovery/action plans or equivalent for Significant Biodiversity Values, and where applicable, have been implemented.

That forest management planning and practices are modified to take account of interim guidelines, specialist advice and existing information for recently listed threatened species and communities.

That forest management planning includes consideration of Significant Biodiversity Values that are in decline or degraded.

### **Indicators**

Work procedures or prescriptions including management practices to protect biodiversity values as far as practical, taking into account relevant species recovery/action plans where applicable.

Records or registers of Significant Biodiversity Values that are maintained within the defined forest area.

Documented management prescriptions and guidelines for the protection and maintenance of Significant Biodiversity Values that are up-to-date and included in the Forest Management Plan and forest operations programs.

#### *Large Forest Managers*

Evidence that ecological expertise and advice is effectively utilised and incorporated into management plans or equivalent instruments and forest operations programs.

### **GUIDE TO IMPLEMENTATION**

Once the various Significant Biodiversity Values have been identified, it is necessary for the forest manager to develop plans and procedures that will protect these values and minimise any damage during forest operations.

Appropriate action to safeguard Significant Biodiversity Values should be specified in the Forest Management Plan and operational plans and guidelines.

Significant Biodiversity Values are degraded where the capacity for the value to restore its self using natural processes has been lost. They are diminished where trends in monitoring results show decreases in the abundance or extent of the value. Plans are required to allow the restoration of the values. The plans to restore capacity are to be in proportion with the scale, intensity and nature of the forest operations within the defined forest area.

Plans and operational guidelines may specify:

- areas where forest operations must be excluded or modified to manage for Significant Biodiversity Values;
- values and features that must be maintained or enhanced in the operating area during forest operations.
- the procedures and practices that will be used to protect the Significant Biodiversity Values, including references to additional plans and procedures.

It should be noted that maintaining or enhancing a Significant Biodiversity Value does not necessarily mean that every individual within the community or group of interest needs to be protected. Protection decisions might be based on:



- recovery/action plans and regulatory requirements;
- extensiveness of the value within region (abundance, spatial and temporal distribution);
- sensitivity to various types of disturbance; and
- viability of individual expressions (context and shape, history and condition and threatening processes).

Plans and procedures developed to maintain or enhance the Significant Biodiversity Values will, as a minimum, need to comply with legal requirements relevant to the defined forest area.

Appropriate safeguards for the protection and maintenance of threatened species and communities are specified in recovery/action plans developed by the Department of Conservation, and through Regional and District Plans and the Wildlife Act 1953. However, it is recognised that development of recovery/action plans for new listings can take time and that in the interim, practices should be modified to take account of known information and specialist advice.

Appropriate safeguards might also include assuming the presence of threatened species and communities where scientific data indicates their presence is likely or taking appropriate steps to determine presence or absence to a level of certainty appropriate to the scale and intensity of operations.

### **Sources of information**

Additional guidance for the protection and maintenance of Significant Biodiversity Values can be obtained from:

- codes of practice, prescriptions and protocols;
- species management guidelines;
- Department of Conservation and Regional Council biodiversity staff;
- experts or recognised consultants knowledgeable in the protection and/or monitoring of the Significant Biodiversity Values in question; and
- NZ Forest Owners Association threatened species guidance on the FOA website ([www.rarespecies.nzfoa.org.nz](http://www.rarespecies.nzfoa.org.nz)).

## ***Requirement 3.5 Monitor Biodiversity***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers support appropriate monitoring of biodiversity priorities on the defined forest area to determine trends and to influence future forest management.

### **Type of requirement**

Document-based.

## **Basis of assessment**

That identified biodiversity priorities are being monitored either directly by the forest manager or as part of regional monitoring programs.

That monitoring programs have sufficient statistical power and are capable of demonstrating that management actions have met, or are trending towards meeting, forest management biodiversity objectives.

That appropriate scientific knowledge is used in the design of the program.

That the Forest Management Plan recognises the need for monitoring and sets the objectives for monitoring appropriately.

Biodiversity priorities are monitored at an appropriate scale within the defined forest area.

That monitoring is undertaken using field measurements repeated at appropriate intervals for the biodiversity specifically within the defined forest area.

### *Large and Medium Forest Managers*

That the effect of management practices on biodiversity priorities is monitored.

Participation is supported for regional monitoring especially consistent with recovery/action plans.

## **Indicators**

Monitoring practices from relevant recovery/action plans are included where appropriate.

Records of monitoring exist.

Consultation has occurred with relevant stakeholders either directly or through the Forest Management Plan processes.

Evaluation of the monitoring results has been completed.

### *Large and Medium Forest Managers*

Documented management prescriptions and guidelines for the monitoring of biodiversity priorities that are up-to-date and included in the Forest Management Plan and forest operations programs.

## **GUIDE TO IMPLEMENTATION**

The long term deterioration of biodiversity in natural ecosystems is a major threat to sustainable forest management.

Significant Natural Areas identified and protected through Regional and District Plans are the primary mechanism for delivering biodiversity protection on private land.

However commercial forest managers should make an important contribution to providing habitat for biodiversity outside reserves. Forest managers must be able to demonstrate that

forest management activities do not diminish Significant Biodiversity Values and biodiversity priorities. Long term monitoring and reporting is therefore required.

Plans and operational guidelines may specify the monitoring that will be carried out to assess the effectiveness of the Forest Management Plan and work practices in protecting the Significant Biodiversity Values and biodiversity priorities.

Indicators of biodiversity can be used in monitoring programs where they are credible proxy measures. Monitoring of indicator species will necessarily be limited by practicality and cost considerations.

Forest managers will consult with stakeholders and relevant experts in developing and reviewing scientifically based monitoring methodologies and their feedback will be considered.

#### *Large and Medium Forest Managers*

Scientifically based flora and fauna survey and monitoring methods are in some instances used by Department of Conservation, Regional Councils or by flora and fauna experts and may be adopted or modified by forest managers to monitor biodiversity priorities. Forest managers may consult or seek advice from Department of Conservation or Regional Council staff or qualified experts on effective monitoring requirements and their implementation. Methods should permit trends of change in the location, abundance and condition of biodiversity priorities to be measured over time for determining management outcomes and the effectiveness of forest management practices in relation to this requirement.

#### **Sources of information**

Additional guidance for the monitoring of biodiversity priorities can be obtained from:

- Department of Conservation and Regional Council biodiversity staff; and
- Experts or recognised consultants knowledgeable in the protection and/or monitoring of the biodiversity priorities in question.

### ***Requirement 3.6 Reviews of Biodiversity***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers utilise current information and the results of monitoring to assess and re-assess the biodiversity priorities.

#### **Type of requirement**

Document-based.

#### **Basis of assessment**

That new information on biodiversity priorities is actively sought, considered and included in forest management planning processes for their maintenance or enhancement.

That the Forest Management Plan and forest operations programs are consistent with changing management prescriptions and guidelines for biodiversity conservation, and recovery/action plans or equivalent.

That forest management planning and practices are modified to take account of interim or new guidelines, specialist advice and existing information for recently listed threatened species and communities.

**Indicators**

Documented management prescriptions and guidelines for the maintenance and enhancement of biodiversity priorities are up-to-date.

**GUIDE TO IMPLEMENTATION**

Once the various biodiversity priorities have been identified, it is necessary for the forest manager to develop plans and procedures that will actively seek out new information on their presence and management. New information for the protection and maintenance of threatened species and communities are specified in recovery/action plans developed for some species by the Department of Conservation.

**Sources of information**

Information on changes to the biodiversity priorities can be obtained from:

- codes of practice, prescriptions and protocols;
- Threatened species strategies and recovery plans;
- Department of Conservation or Regional Council staff; and
- experts or recognised consultants knowledgeable in the protection and/or monitoring of the Significant Biodiversity Values in question.

***Requirement 3.7 Regeneration***

**GUIDE TO VERIFICATION**

*Plantations*

Not relevant.

*Native Forest*

The intent of this requirement is to ensure that regeneration of native species after harvesting approximates the composition and distribution of forest types that existed naturally and/or prior to harvesting.

Harvesting and other native forest management must comply with the forest management plan or permit required under the Forests Act before the operation can proceed.

**Type of requirement**

Document-based evaluation with verification in the field.

**Basis of assessment**

That planning for native forest regeneration is included in the Forest Management Plan.

That where reasonably practicable forest reproductive material is from a species and provenance native to the defined forest area or from an equivalent locality.

That natural regeneration processes are utilised for regenerating the site where appropriate.

That procedures are in place and implemented to ensure, in so far as is economically possible and practicable, that the composition and distribution of regeneration approximates that prior to harvesting.

**Indicators**

Forest Management Plan and operational procedures.

Records of pre- and post-harvesting surveys.

Record of assessment of circumstances that would justify the use of species and provenances either not native to the defined forest area or not from an equivalent area.

Records of assessment of the likely original composition and distribution of dominant species.

**GUIDE TO IMPLEMENTATION**

An important aspect of regenerating native forests after harvesting is consideration of the local gene pool and species patterns. This requirement is most relevant to clearfall-seed operations and supplementary plantings within native forests such as to rehabilitate compacted areas such as landings or temporary roads/tracks.

In order to fulfil this requirement, it will be necessary to identify the composition and distribution of species prior to harvesting. In general this information might be drawn from vegetation type maps, inventory plots and pre-harvest site inspections. In most cases pre-harvest surveys to precisely establish the species composition would not be required unless species of high conservation significance or uncertain regenerative capacity were likely to be present. Consideration could also be given to an assessment of the likely original composition and distribution of dominant species where past practices have altered the species mix.

The species composition of regenerating forest will often be different to the previous forest due to the natural ecological processes where species that prefer disturbance are initially more abundant. These natural ecological processes can be considered in the planning to achieve this requirement.

Species that are not native to the area may be planted if suitable local seed is not available or if replanting needs to occur promptly. In either instance, species that simulate or approximate original species should be selected. The justification for the use of species and provenances either not native to the area or not from an equivalent area might address issues such as:

- availability of appropriate reproductive material (such as in regenerating large areas following wildfires);

- timing to ensure prompt regeneration, particularly for prompt rehabilitation of compacted areas; and
- weather conditions influencing regeneration success.

Relevant records might include:

- harvesting plans – type and extent;
- fire history – extent and severity;
- seed collection and provenance records;
- seeding records from nurseries;
- regeneration surveys at regular intervals following commencement of monitoring; and
- sustainable forest management plans and permits.

The forest manager's regeneration procedures should be documented, along with harvest plans, initial surveys, locations where seed has been collected, other sources of seed and root stock and regeneration surveys.

Regular monitoring of areas that have been regenerated is desirable to assess the success of the forest manager's efforts. Requirement 4.6 also addresses regeneration of native forests, but focuses on effectiveness of regeneration to ensure that productive capacity is maintained. Specifications for the assessment of regeneration could incorporate specifications for assessments under both requirement 3.7 and requirement 4.6.

Specifications for assessing regeneration in relation to composition and distribution might address:

- whether dominant tree species in the pre-harvest stand are represented as seed-trees or in seed applied post-harvest;
- whether propagules of off-site species were applied post-harvest; and
- intensity and frequency of regeneration sampling will be determined by forest type and silvicultural practice in accordance with the relevant specification for effective regeneration.

## ***Requirement 3.8 Introduced Genetics***

### **GUIDE TO VERIFICATION**

#### *Native Forest*

This requirement is not directly applicable to native forest on the basis that requirement 3.7 would exclude the introduction of non-native genetic material.

#### *Plantations*

The intent of this requirement is to protect the integrity of vegetation adjacent to plantations through management of plantation species and gene introgression (mixing) with other populations.

#### **Type of requirement**

Document-based evaluation and verification in the field.

### **Basis of assessment**

That the consequences of introducing species, provenances or populations, whose environmental impacts on ecosystem and genetic integrity are unknown, are evaluated.

That plantation species, provenances or populations are identified and the significance of their impacts on the integrity on adjacent native vegetation is assessed.

That management strategies and procedures are in place to constrain the spread of plantation species, provenances or populations that affect the integrity of adjacent native vegetation and appropriate action is implemented.

That spread of plantation species, provenances or populations into adjacent native vegetation is monitored and documented to determine the effectiveness of control procedures.

That genetically-modified trees are not used.

### **Indicators**

Assessment of significance of impact of plantation species on ecosystem integrity.

Programmes, plans and operational procedures to control and/or limit the spread of plantation species into adjacent native vegetation.

Record of communication with adjacent landholders.

Records of monitoring spread of plantation species.

Records of control activities.

Map or record of the location, area (hectares) and estimate of the density (quantitative or qualitative) of wilding plantation species occurring outside plantation boundaries.

Records of assessment of changes in the distribution and density of plantation species and review of control procedures.

### **GUIDE TO IMPLEMENTATION**

The use of genetically-modified trees in any forest is not allowed because of community concerns about the off-site effects and therefore requires the application of the Precautionary Principle. These concerns can be addressed by adequate research, community engagement and the application of regulatory processes. Genetically-modified trees may be able to be used in the future when enough scientific data indicates that impacts on human and animal health and the environment are equivalent to, or more positive than, those presented by trees genetically improved by traditional methods.

The establishment of plantations of native or indigenous species of improved genotypes can be considered where the overall benefits compared to using introduced species out way the risks of genetic pollution from pollen flow.

Introduced species, provenances and populations used in plantations may have potential to affect ecosystem health and vitality in a similar manner to weeds.

It needs to be recognised that a problem may predate certification by many years and the assessment needs to look at evidence of plans/strategies to manage the current infestations and to control further spread and new infestations with priority given to native vegetation of high conservation value.

Monitoring changes in the distribution and density of plantation species at appropriate intervals can help to ensure that control measures are effective. Intensity and frequency of sampling should be commensurate with risk.

Ground surveys and/or aerial photography may be used to determine the extent and abundance of plantation species and the effectiveness of control measures.

In the context of this requirement:

- spread means the establishment of wildings and/or the flow of genes; and
- it is recognised that access to adjoining land might limit the ability of forest managers to control pre-existing spread problems.

Appropriate actions might include:

- an assessment of invasiveness of new species, populations and provenances and potential impacts on adjacent land (the Wilding Risk calculator developed by Nick Ledgard provides a means of assessing the risk of spread);
- establish reliability of detecting new introduced and substantial (specified) changes in range of existing invasive species;
- trialling the selection of species;
- monitoring selection and use of exotic species;
- removing wildings from native vegetation adjacent to plantations where the forest manager has land management influence/control;
- limiting further spread of wildings in accordance with a management strategy;
- consulting with adjacent land managers on joint programs to monitor and/or control introduced species;
- establishing buffer zones between native vegetation and plantations where there might be a flow of genes; and
- co-operative efforts between adjacent land managers to eradicate wildings.

### ***Requirement 3.9 Native Vegetation Conversion***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to acknowledge as a general principle that conversion of native vegetation to plantations or non forest uses is not sustainable.

Conversion of native vegetation to plantation forest or non-forest is only permitted (under NZS AS 4708:2014) where it is:



- in compliance with applicable Regional and District Plans rules
- where the forest manager is a party to it, the conversion does not breach the New Zealand Forest Accord
- in compliance with the Forest Management Plan
- does not affect any native vegetation identified to contain Significant Biodiversity Values under section 3.3.

The Forest Management Plan can specify the clearing of forest for required infrastructure development.

Offsets are required for all losses of native vegetation and offsets must be protected in the long-term.

Significant Biodiversity Values must be protected from conversion and clearing for non-forest uses.

### **Type of requirement**

Document-based with verification in the field.

### **Basis of assessment**

That the impact of any conversion or clearing of native vegetation on Significant Biodiversity Values is identified and a risk assessment is undertaken which includes appropriate technical expertise,

That appropriate offsets are identified, implemented and unaffected by any other operations.

That the Forest Management Plan covers any conversion or clearing of native vegetation within its scope and objectives and identifies the management of the required offsets.

That forest operation plans are consistent with the limited circumstances outlined in the requirement.

That relevant legislative or regulatory approvals have been appropriately obtained and maintained.

That impact assessment and monitoring processes confirm that Significant Biodiversity Values have been maintained.

### **Indicators**

Plans and operational procedures identifying the location of Significant Biodiversity Values that have been excluded from conversion or clearing of native vegetation.

Clear directions in the scope and objectives of the Forest Management Plan on the avoidance of native vegetation clearance.

Record of identification and risk assessment of potential impacts on native vegetation, existing offsets and Significant Biodiversity Values.

Approvals obtained from relevant regulatory bodies for specific conversion of native vegetation and reports from those regulatory bodies on the forest managers compliance with those approval conditions.

Records of areas of native vegetation converted or cleared and of areas excluded from conversion or clearing of native vegetation.

Records of how offsets will achieve a net gain in biodiversity or environmental values in the landscape to compensate for the loss from conversion or clearing.

## **GUIDE TO IMPLEMENTATION**

The specific circumstances in which this requirement allows for native vegetation clearance are limited to situations where the clearance is:

- in compliance with applicable Regional and District Plans rules
- where the forest manager is a party to it, the conversion does not breach the New Zealand Forest Accord
- in compliance with the Forest Management Plan
- does not affect any native vegetation identified to contain Significant Biodiversity Values under section 3.3.

Situations in which native vegetation clearing may be considered appropriate include:

- for the construction of essential infrastructure such as access roads, where no practical alternatives exist.
- clearance of isolated pockets of native vegetation within a plantation area such as failed gaps from the previous rotation which have regenerated.
- fingers of native vegetation within production areas that form boundaries that are impractical to protect during harvesting.

### ***Offset criteria***

Offsets provide an opportunity for a net gain or no net loss in biodiversity or environmental values in the landscape to compensate for the biodiversity or environmental values lost from conversion or clearing. An offset mechanism which effectively balances the environmental outcomes of the conversion for the relevant environmental value is required. Offsets should be based on clear and transparent risk assessment criteria and appropriate technical expertise. Three environmental values should be addressed; vegetation conservation status, vegetation landscape value and vegetation site quality and extent. Offsets are considered to have a net environmental benefit if:

- offsets are in vegetation types that in the longer term will be of equal or greater conservation status to the vegetation proposed for conversion;
- improvement in landscape value (the configuration of vegetation) from the offset will in the longer term exceed the losses in landscape value brought about by conversion; and
- improvement in vegetation site quality and quantity from the offset will in the longer term exceed losses in site quality and quantity from the conversion.

The following principles provide guidance in the development of offsets:

- an environmental offset package should address both direct offsets and contributing offsets;
- environmental offsets should ideally be ‘like for like or better’;
- positive environmental offset ratios should apply where risk of failure is apparent;
- environmental offsets should entail a robust and consistent assessment process through the application of specific technical expertise; and
- environmental offsets should be clearly defined, mapped, transparent and auditable.

Infrastructure development proposed by an another party that occur outside the control of the forest manager does not require offsets by the forest manager under the standard.

Native vegetation which has been subject only to natural disturbances such as bushfire, storms, flood, drought or other natural causes should continue to be classified as such. Recently burnt native forest or areas damaged by harvesting shall continue to be classified as native vegetation.

The identification and assessment of native vegetation will require suitably qualified persons who can document the suite of species and habitats present compared to the appropriate benchmarks using recognised processes and procedures applicable for the location of the defined forest area.

The forest manager should be able to demonstrate that all plantations complied with the relevant Standard at the time whilst the defined forest area was under their control.

Where there has been a change of forest manager or a change to the defined forest area, the current forest manager must demonstrate that any non-compliant conversion was done completely outside their control.

## **CRITERION 4 – Forest Productive Capacity**

The intent of the requirements under this criterion is to ensure that harvesting and utilisation of forest products is consistent with the objective of maintaining the long-term productive capacity of the land.

Other issues relating to maintaining productivity in perpetuity are addressed under Criterion 5, which addresses forest ecosystem health and vitality, and Criterion 6, which addresses soil and water resources.

### ***Requirement 4.1 Identify Productive Capacity***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest management is cognisant of the need to sustain the land's capacity over the long term to produce wood and non-wood products subject to legitimate uses that in many cases provide an economic benefit.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That existing productive uses of the defined forest area have been identified.

That a resource inventory and mapping system, and periodic monitoring of the resource appropriate to the nature and scale of operations is established and maintained.

That forest growth and yield estimates for designated forest products are undertaken.

That the accuracy of growth and yield estimates is known and appropriate to the scale and intensity of operations.

#### **Indicators**

Records of assessment of the productive capacity for existing wood and non-wood products.

#### **GUIDE TO IMPLEMENTATION**

This requirement focuses on the traditional and tangible products from a forest ecosystem as other ecosystem services such as watershed functions or carbon sequestration are dealt with under other requirements (criteria 6 and 7).

Wood and non-wood products might include:

- sawlogs, veneer logs, pulp or residue logs, roundwood, poles, piles and girders, post/fencing timber, and firewood; and
- wildflowers, tree ferns, honey, grazing, extractive materials, forest foods eg berries, mushrooms, bush foods and medicines, game and seeds

Appropriate actions might include:

- statement of intent for productive forest uses;
- recognition of inherent site factors which affect productive capacity; and
- development and monitoring of a productivity index over rotations.

The policies and procedures applicable to corporate and management planning such as business plans might include the identification and consideration of both wood and non-wood products.

A forest manager that is operating a mixed enterprise that integrates plantations with other crops or primary production activities should consider the full range of productive uses and can allocate land to its highest value use consistent with all of the requirements of the Standard including Requirement 3.9.

The forest manager can manage the extent of the defined area to maintain the productive capacity by the acquisition and disposal of land to suit the management objectives consistent with all of the requirements of the Standard including Requirement 0.1.

Records of appropriate actions could be documented and maintained along with the possible uses identified.

## ***Requirement 4.2 Identify Harvest Rates***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest management is cognisant of the need to manage the harvesting of wood and non-wood products so as to sustain the land’s capacity to produce over the long term.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That existing and planned harvesting rates have been identified.

That an evaluation of harvesting rates has been completed.

That planned harvesting rates in the short term have been justified.

#### **Indicators**

Records of harvesting rate calculations and justifications are included in the Forest Management Plan.

Compliance with relevant local codes, permits and regulations.

## GUIDE TO IMPLEMENTATION

The rates at which forests are harvested needs to be identified. This can be done within the Forest Management Plan and the planning process consistent with Criterion 1.

Trees can be harvested when they are at or near their optimal size for existing markets, their nominal rotation age, or when required for the management of the stands involved. Any significant deviations from the planned rotation will need to be justified in the planning processes.

The social impacts of harvesting on stakeholders including neighbours, local communities, contractors, customers and service suppliers can be considered when determining harvesting rates.

It is acceptable to arrange harvesting in batches of consolidated areas to manage or limit the duration and extent of impacts. It is also acceptable to provide for continuous or dispersed harvesting to limit the size of impacts depending on conditions.

### *Large and Medium Forest Managers*

An estimate of sustainable yield should be calculated and any significant deviations of harvesting rates from the estimate will need to be justified.

## ***Requirement 4.3 Plan and Monitor Use***

### GUIDE TO VERIFICATION

The intent of this requirement is to ensure that the forest planning processes required to undertake harvesting of wood products does not jeopardise the long-term productive capacity of the land.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That activities which could affect productive capacity of the forest land are identified.

That planning of forest operations addresses identified risks to productive capacity.

That growth and yield estimates are reconciled with production records/standing volume assessments and that it is recognized that catastrophic loss may occur from time to time.

That the timing of regeneration, silvicultural and harvesting operations are carried out so that the productive capacity of the forest site is not compromised.

#### **Indicators**

Forest inventory system including growth or assessment plots.

Recorded information pertaining to the identified aspects of growth and yield.

Forest Management Plan, including strategies (rationale) for inventory and growth estimation.

## **GUIDE TO IMPLEMENTATION**

The requirement puts emphasis on ensuring that planned operations including harvesting are consistent with the Forest Management Plan and the harvesting rates identified in Requirement 4.2.

It is recognised that harvesting levels in a particular year are not linked to maintenance of productive capacity as yield will vary over time according to management strategies. Also harvesting levels will fluctuate in response to market and investment influences, amongst other factors. Strategies for planned operations can encompass this flexibility while conforming to this requirement.

Appropriate actions might include:

- identifying activities and risks that could affect the future capacity of the area to produce the wood and non-wood products previously identified. These can include:
  - implementation of appropriate silvicultural techniques including harvesting methods and cutting cycle;
  - implementation of environmental controls;
  - soil protection and erosion management;
  - the management of roads and infrastructure;
  - use of chemicals;
  - fire management and protection; and
  - management of pests and diseases; and
- developing and implementing the Forest Management Plan and procedures to address the identified risks. This process should include the documentation of projected yields. It should be noted that yields may vary substantially from year to year and may be affected by market forces.

### *Plantation*

The selection of species for plantation establishment should be reviewed at appropriate times and where possible the selected species, provenance and genotype should be matched to the actual site considering all of the requirements of the Standard and documented in the Forest Management Plan.

## ***Requirement 4.4 Infrastructure***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that the forest manager has provided sufficient infrastructure to achieve the objectives of the Forest Management Plan while minimising negative impacts on the environment.

### **Type of requirement**

Document-based evaluation.

**Basis of assessment**

That the required infrastructure has been identified and evaluated.

That planning of infrastructure development addresses identified risks.

That sufficient roads and bridges exist or are planned.

**Indicators**

Maps of road and bridge networks are available.

Infrastructure development and maintenance plans are consistent with relevant local codes, permits, best practice guides and regulations.

Forest Management Plan includes strategies for infrastructure.

**GUIDE TO IMPLEMENTATION**

The aspects and impacts of roads and roading operations can be significant for a forest manager. The potential for major environmental impacts from roads and road construction needs to be recognised and controlled. The economic costs of roading operations need to be considered and the risks controlled especially in terms of the direct costs and the costs of failing to be able to deliver forest products to customers in a timely manner.

***Requirement 4.5 Silviculture***

**GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that silvicultural systems are scientifically-based and properly planned and implemented so that the present and future productivity, health, vitality and ecological function of forests is sustained.

**Type of requirement**

Document-based evaluation with field verification.

**Basis of assessment**

That silvicultural systems are appropriate and soundly based in accordance with the forest type, the specific stand and site conditions, forest management requirements, biodiversity priorities, market conditions and product requirements.

That where silvicultural options are available, such options have been assessed and evaluated for application.

That silvicultural regime(s) are periodically reviewed and their effectiveness and appropriateness assessed.



## Indicators

Manuals, guidelines and operational procedures of silvicultural practices.

Records of assessments of silvicultural options.

Trial(s) of new silvicultural techniques.

## GUIDE TO IMPLEMENTATION

The choice of an appropriate silvicultural system or systems for a given forest is an important decision in the pursuit of sustainable forest management.

A silvicultural system can be broadly defined as a set of cultural treatments aimed at achieving specified objectives of forest management. Silvicultural systems are usually named in a manner that describes the spatial and temporal distribution of tree removal at the coupe level. The systems (viz. clearfell, seedtree, shelterwood, selection) all lie on one of two continuums related to the size of the opening (small openings as in single tree or group selection to large openings as in clearfell) or the density of retained trees or overwood (high initial retention as in shelterwood to low retention as in seedtree). It is important, however, to note that this classical terminology should not constrain an innovative approach to silviculture where modified systems may be developed through research and extensive operational experience to meet specific management objectives.

The choice of a silvicultural system is influenced by a number of factors, many of which are not mutually exclusive. These factors may include:

- management objectives;
- the size of the forest estate/defined forest area (for example, a contiguous forest block of 10,000 hectares offers more scope to achieve diversity in forest structure at the landscape level than does a small patch of 10 hectares of fragmented forest);
- silvics (characteristics and requirements) of individual tree species (for example *Pinus radiata* is a pioneer or light demanding species and is deemed as best grown in even-aged stands);
- occupational health and safety (OH&S) issues. The felling of single trees or small groups of trees in tall forests is particularly dangerous, it is far safer to fall trees from an established face into a gap that is larger than the individual tree length;
- condition of forest (forests may be affected by pests, pathogens, wildfire and other agents with the result that they now have low future capacity for quality wood production. This constrains the choice of silvicultural systems if timber production is a priority future use);
- wood quality considerations (degrade of retained trees due to damage during harvesting or from epicormic growth due to exposure can be significant, and this limits future opportunities for value adding);
- likely yields of products and the current and future markets for those products; and
- costs and cost effectiveness of different silvicultural systems.

*Native Forest*

Irrespective of which silvicultural system is adopted, successful regeneration (a key requirement of sustainable forest management) requires a complete analysis to confirm that the following three essential requirements can be met:

- A receptive seedbed (burnt or soil disturbed);
- Seed supply (viable seeds in sufficient numbers from natural sources such as seed trees or from artificial sources by hand or aerial sowing. Planting is a further option); and
- Favourable conditions for seedling establishment (frost, drought, browsing, etc can cause high mortality of germinants and seedlings, while fertile soils and competition free conditions can promote rapid establishment)

All of the above issues were considered in arriving at the position adopted on silvicultural practices, as reflected in this requirement. Amongst other things, this position requires a full and transparent evaluation of all relevant factors, and does not preclude the introduction of new innovative systems in the future if they are soundly based and help meet individual management objectives.

The evaluation of silviculture methods needs to be documented. The evaluation could demonstrate how the silviculture method will optimise production in the defined forest area, while still maintaining it within its long-term sustainable limits. The assessment may also demonstrate additional benefits, such as, how the silvicultural method complements the management of other areas and assists or improves maintenance of other values described within the Standard.

*Plantations*

The silvicultural system might include specifications on the following factors:

- species selection;
- establishment practices (e.g. soil cultivation, fertiliser/chemical usage);
- timing and intensity of thinning and pruning operations; and
- rotation length.

The evaluation of silvicultural methods needs to be documented.

***Requirement 4.6 Establishment*****GUIDE TO VERIFICATION**

The intent of this requirement is to ensure specifications for effective stocking are defined and an assessment and monitoring mechanism that ensures prescribed stocking levels are achieved in both plantations and native forests.

**Type of requirement**

Document-based evaluation with verification in the field.

## **Basis of assessment**

That an appropriate specification for effective stocking and assessment methodologies relevant to forest type is determined.

That post establishment stocking levels are assessed in a timely manner for conformance with targets for effective stocking.

That remedial action and contingency plans are developed.

That appropriate remedial action is implemented, where necessary, according to the assessment methodology and in-line with management objectives.

That the timing of reestablishment after harvesting facilitates rapid re-occupation of the site.

That a program for the control of potential damage agents to the young crop trees is in place.

## **Indicators**

Specification(s) for effective stocking.

Assessment methodologies.

Forest establishment plans.

Remedial action and contingency plans.

Records of assessments of stocking and of remedial action undertaken.

Silvicultural prescriptions recognising timing for establishment.

## **GUIDE TO IMPLEMENTATION**

### *Plantation*

The forest manager needs to have processes in place to assess the stocking in recently established plantations and to improve the effective stocking where tree survival is insufficient to meet the objectives of the Forest Management Plan.

Understocked or under performing stands should not be allowed to become degraded forests that require rehabilitation under Requirement 5.5 of the Standard.

A review of establishment practices may be required where establishment fails to achieve standards of stocking significantly or repeatedly.

### *Native Forest*

The forest manager needs to develop specifications for the regeneration of native forests that will achieve optimal regrowth based on the species being regenerated and the local conditions. The specification might deal with:

- stocking density;
- species type/s; and

- variation in density over time to allow for thinning operations.

Appropriate actions after harvesting to ensure effective regeneration might include:

- timing of regeneration to achieve optimum rates of establishment;
- implementing fauna grazing and browsing damage control programs to facilitate regeneration success;
- taking any appropriate remedial action to ensure stocking meets prescribed levels; and
- undertaking enrichment planting or other appropriate strategies to supplement the number of seedlings growing in an area or where regeneration is below minimum prescribed levels.

Areas being regenerated need to be regularly monitored to assess whether stocking rates are in accordance with the specifications. Recognised stock assessment techniques may be utilised for this purpose and the results of assessments to determine stocking levels recorded. If the stocking rates are found not to comply with the specifications, then the forest manager may:

- carry out thinning operations to reduce stocking rates to the specification;
- take action to reduce losses from animal damage;
- take actions to ensure species mix is in compliance with the specification; and
- carry out additional plantings to supplement loss of seedlings.

## ***Requirement 4.7 Damage to growing stock***

### **GUIDE TO VERIFICATION**

The intent of this requirement is for forest managers to keep damage to standing trees within tolerable levels during forest operations such as timber harvesting and extraction, non-commercial thinning, chemical application, construction and/or maintenance of roads and stream crossings, and slash disposal.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That mechanical agents of tree damage have been identified.

That operational controls are in place to ensure damage to forest growing stock and immediate environment during forest operations is kept to tolerable levels.

That an appropriate specification for tolerable levels of damage, and its assessment exists and is quantifiable where practicable.

That procedures are in place to assess and/or monitor damage and ensure corrective action is taken where necessary.

#### **Indicators**

Management systems to minimise damage to growing stock due to forest operations.

Records of damage assessment for growing stock and designated values.

Evidence of corrective and preventative actions.

## **GUIDE TO IMPLEMENTATION**

The forest manager needs to identify forest operations that may cause damage to forest stock and therefore affect the health of the forest and the productivity of the defined forest area. Once these potential causes of damage are identified:

- plans can be developed to minimise the damage including appropriate controls on work prescriptions and harvest plans to avoid/minimise damage.
- procedures can be developed to prevent or minimise degradation of timber quality during forest operations;
- specific strategies, such as directional felling and extraction track location, may be specified in harvesting plans;
- a reporting system be developed to assess and report unacceptable levels of damage;
- procedures implemented to take corrective action(s) and assess its effectiveness in the event of unacceptable damage; and
- staff and workers, and contractors be trained in the procedures and reporting system.

Even with the best of care, some level of damage will inevitably occur during forest operations. To determine whether the damage is “tolerable” or “unacceptable”, specification/s need to be developed for each operation that may cause damage. These can be:

- descriptive specifications, describing the level of damage that is deemed “tolerable”, or “unacceptable”;
- based on a quantitative amount (e.g. damage per hectare or on a percentage of an individual tree basis); or
- some combination of the two.

Procedures developed to minimise damage should be incorporated into forest operational plans.

In the context of this requirement, what constitutes tolerable damage from forest operations needs to be considered in the context of the commercial and other values of the defined forest area and the extent and scale of the forest operation.

## ***Requirement 4.8 Unplanned Fire***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure forest managers take effective measures to reduce the extent and impact of unplanned fires and have the capacity to respond to unplanned fires at a level appropriate to their resources and the capital at risk in the forest.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That risk factors contributing to the incidence, extent and severity of unplanned fires have been identified and evaluated.

That a forest fire management and control system to protect human life and property and the environment is in place.

That forest managers contribute to regional fire management planning and the regional fire prevention and control infrastructure (such as, access roads, fire trails, fire towers, helipads) at an appropriate level.

That the fire management and suppression capability commensurate with the forest manager's resources delivers an effective outcome in reducing the potential damage from unplanned fires.

#### **Indicators**

Assessment of regional fire history, cause, origins (including traditional burning practices), incidence, extent and severity.

Assessments of fire risk.

Plans and operational procedures for fire management, suppression and control.

Linkages with Rural Fire Authorities.

Communication/participation with land/fire control managers and other agencies.

### **GUIDE TO IMPLEMENTATION**

In the context of this requirement, for forest managers to ensure an effective regional response, there is a need to provide information to Rural Fire Authorities on the capacity and infrastructure that their organisation possesses which supports regional fire management and control.

Appropriate actions might include:

- awareness of regional fire management, and control and response plans;
- contributing to or collaborating with or participating in Rural Fire Authorities;

- development of property management plans or equivalent instruments within the context of regional fire management and control;
- development and maintenance of fire breaks;
- development of site specific fire management, fire control and fire response plans;
- development and maintenance of fire suppression and detection/surveillance capabilities and resources; and
- fire prevention programs – internal, inter-agency or co-operative programs.

## ***Requirement 4.9 Non-wood Products***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure forest managers take effective measures to control the exploitation of non-wood products.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That the production of non-wood products is considered in the Forest Management Plan.

That forest managers control the exploitation and limit the over exploitation of all non-wood products.

#### **Indicators**

Assessment of the presence and values of non-wood products.

Plans and operational procedures for control of the production of non-wood products.

### **GUIDE TO IMPLEMENTATION**

Forest managers should treat the management of non-wood values according to the aspects and impacts identified in planning processes. Where the production of non-wood products presents risks to biodiversity values their production should be subject to similar controls as apply to wood production.

It is recognised that tenure arrangements (such as lease agreements) may limit the ability of forest managers to control the use of non-wood products in some instances eg where leases specifically allow for recreational use such as hunting and fishing by the landowners.

Forest managers are not the regulatory authority for the management of animals and fish. The forest managers are expected to manage these products within the limits of their powers and authority.

## CRITERION 5 – Forest Ecosystem Health

The intent of the requirements under this criterion is to protect and maintain the health and vitality of forests through the good management of both external and internal damaging agents, such as insects, disease, vertebrate pests and competition from non-endemic species that can affect basic ecosystem processes and cause significant changes to the nature and condition of forests.

Ecosystem health is the state of processes and natural cycles which maintains the forests vitality, or capacity to perpetuate itself.

### *Requirement 5.1 Identify Damage Agents*

#### GUIDE TO VERIFICATION

The intent of this requirement is to ensure that forest managers are cognisant of relevant and potential damage agents, are able to identify such agents in the field and are able to assess and prioritise the impact of an agent in relation to prevention/control measures.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That relevant damage agents have been identified.

That relevant damage agents have been assessed for impact and prioritised for prevention/control measures.

That an appropriate specification for acceptable levels of damage, and its assessment, exists.

#### **Indicators**

Records of scientific advice on damage agents from relevant authorities.

List of actual and potential damage agents for the forest region/defined forest area.

Records of assessments of impact and prioritisation of prevention/control measures.

Specification(s) for acceptable levels of damage.

#### GUIDE TO IMPLEMENTATION

Appropriate actions might include:

- pest, pathogen and weed identification guides, including their characteristics for field identification, for the potential damage agents specific to forest type, species and locality;
- assessing the susceptibility of forest species to pests and diseases; and
- training of staff in pest, pathogen and weed identification.



*Native Forest*

The identified damage agents, including non-native fauna and flora that may compete with species local to the defined forest area and disrupt the forest ecosystem, can affect any part of the forest ecosystem, therefore, the forest manager must not only include those agents that can affect trees, but also those that affect other fauna and flora within the forest ecosystem. Policies and procedures applicable to this requirement need to be cognisant of the identification and consideration of degraded native forests.

When identifying damage agents, the forest manager must review both the damage agents present in the defined forest area and those surrounding the defined forest area that could impact on the forest ecosystem some time in the future. Once identified, the damage agents need to be assessed and prioritised, based on the actual or potential damage they may cause. For existing damage agents in the defined forest area, a survey to assess the extent and severity of damage may be required to determine the priority that will be placed on each damage agent. When determining the priority to place on a damage agent, legal requirements (e.g. for declared weeds) also needs to be considered.

The assessment and findings should be documented and retained by the forest manager, along with maps showing the type, location and severity of damage agents.

Prioritisation of damage agents for prevention/control measures needs to be considered in the context of the economic and other values of the defined forest area.

**Sources of information**

Appropriate sources of information may include:

- formally proclaimed or declared pathogens, weeds and areas of infestation;
- surveys of the location, extent and severity of damage agents;
- plant and animal pests and disease surveys;
- regional monitoring and control programs;
- scientific advice e.g. Scion, Landcare Research , universities; and
- Government departments or agencies.

***Requirement 5.2 Maintain Health*****GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers take appropriate measures to maintain ecosystem health on the defined forest area/on forests within the capacity of the forest manager.

**Type of requirement**

Document-based evaluation with verification in the field.

**Basis of assessment**

That a plan and procedures are in place for forest health surveillance.

That procedures for the control or eradication of priority damage agents are implemented according to determined damage thresholds.

That risk assessment and management procedures are in place for protection of healthy vegetation known to be susceptible to damage agents.

### **Indicators**

Assessments of significance of impact of damage agents.

Records of consultation with landholders and other agencies.

Participation in the New Zealand Forest Biosecurity Surveillance Programme.

Forest health surveillance and risk assessment program.

### **GUIDE TO IMPLEMENTATION**

Early detection through surveillance programs of threats to forest health, and the capacity for their control and management through professionally trained staff and workers and coordinated responses are considered crucial to the success of maintaining forest health.

In relation to this requirement, it must be recognised that some problems may predate the certification assessment by many years and the assessment needs to look at evidence of strategies to manage current health.

In the context of this requirement:

- "healthy" relates to forest where identified diseases or pathogens are absent, or below determined thresholds;
- damage agents to be managed may include endemic and exotic weeds, insect and vertebrate pests (including native and feral animals) and pathogens; and
- forest ecosystem vitality relates to the ability to rebound from disturbance and continue the life cycles of the full range of current and expected life forms.

Appropriate actions to manage current infestations and to control any further spread of new infestations might include:

- developing appropriate thresholds for initiating management actions;
- putting in place procedures for the protection of healthy vegetation, known to be susceptible to important and recognised pests (including feral animals) and pathogens and weeds (e.g. seeking specialist advice where forest operations are planned for healthy forest vegetation or controlling defined forest area access, where necessary);
- monitoring frequency of crown dieback and tree death;
- co-ordination of activities with neighbours and regular users;
- documenting the use of control agents and putting in place procedures to ensure their use is appropriate for the purpose intended;
- consulting with Ministry for Primary Industries when possible new incursions of exotic pests or pathogens are detected;
- provision of education and training for staff and contractors in the identification and control of damage agents; and

- identification of quarantine areas and boundaries for pathogens (e.g. Phytophthora), both in the field, and on relevant maps.

Relevant publications for identifying and controlling damage agents include:

- Field Assessment Control and Identification of Common Foliage Diseases of Radiata Pine in NZ, Lindsay Bullman SCION 2014;
- Field Guide to Common Pest Diseases and other Disorders of Radiata Pine in New Zealand, Sandra Chapman - Forest Research Bulletin no. 207, 1999;
- Exotic Pests and Diseases of Pine Not Wanted in New Zealand, Geoff Ridley - Forest Research Bulletin No. 227, 2003; and
- Common Insect and Fungi that Affect Logs and Sawn Timber in New Zealand. Assure Quality Ltd. 2007.
- Scion website: <http://www.scionresearch.com/research/forest-science/biosecurity>

When developing strategies to control damage agents, the forest manager needs to take the following issues into account:

- the priority that has been placed on each damage agent;
- the effectiveness of strategies that may already be in place;
- whether total eradication of the damage agent is possible, practical or affordable;
- if total eradication is not possible or practical, what is an tolerable level of damage;

The forest manager may consider it prudent to implement a monitoring program that:

- periodically monitors the location, extent and severity of existing damage agents;
- continually monitors forest condition;
- assesses the effectiveness of control strategies and procedures; and
- assesses the effect on the forest ecosystem following major outbreaks or a catastrophic event.

Based on monitoring results, damage agent control strategies and procedures may be amended or augmented if they are not providing an adequate level of control over the damage agent.

### **Sources of information**

Appropriate sources of information may include:

- Ministry for Primary Industries;
- Scion and Landcare Research;
- universities; and
- consulting experts and specialists

## ***Requirement 5.3 Weeds and Pests***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers take appropriate measures to lessen the impact of weeds and pests on the defined forest area/on forests within the capacity of the forest manager.

### **Type of requirement**

Document-based evaluation with verification in the field.

### **Basis of assessment**

That a plan and procedures are in place for weed and pest surveillance.

That an integrated weed and pest management plan is in place for those damage agents that have been assessed as being significant.

There are systems in place to comply with relevant Regional Pest Management Plans and compliance with the proposed Government Industry Agreement relating to new incursions of pests.

That procedures for the management or eradication of priority weeds and pests are implemented according to determined impact thresholds.

That there is no evidence of non-compliance with legislative requirements for pest and weed control and management.

### **Indicators**

Assessments of significance of impact of weeds and pests.

Plans and operational procedures for control or eradication of weeds and pests.

Records of consultation with landholders and other agencies.

Map or record of the location, extent (hectares) and estimate of the numbers (quantitative or qualitative) or severity of infestation of particular weeds and pests.

Records of assessment of changes in the extent and severity of weeds and pests.

Record of review of control procedures where weeds and pests are increasing in area and/or numbers and severity.

### **GUIDE TO IMPLEMENTATION**

The management of weeds and pests is important to:

- protect the ecological integrity of native vegetation where possible;
- protect the integrity of adjacent land uses, where possible; and
- comply with relevant weed or pest legislation.

Early detection through surveillance programs of pests and weeds, and the capacity for their control and management through professionally trained staff and workers and coordinated responses are considered crucial to the success of control and management of damage agents.

In relation to this requirement, it must be recognised that some problems may predate the certification assessment by many years and the assessment needs to look at evidence of strategies to manage current infestations and to control any further spread and new infestations. It is recognised that control of pests and weeds may not, in all instances, be possible.

In the context of this requirement the focus for weeds is on those of national or regional significance, identified in National interest pest response programmes, National pest management strategies and priorities, and Regional pest management strategies and plans.

Appropriate actions to manage current infestations and to control any further spread of new infestations might include:

- assessing management options for preventing or controlling the spread of pests and weeds;
- developing appropriate thresholds for initiating management actions;
- putting in place procedures for the protection of healthy vegetation, known to be susceptible to important and recognised pests (including feral animals) and weeds (e.g. seeking specialist advice where forest operations are planned for healthy forest vegetation or controlling defined forest area access, where necessary);
- keeping records of pest and weed occurrence;
- co-ordinating activities with neighbours and regular forest users;
- documenting the use of control agents and putting in place procedures to ensure their use is appropriate for the purpose intended;
- consulting with Ministry for Primary Industries when possible new incursions of exotic pests are detected;
- providing education and training for staff and contractors in the identification and control of damage agents; and
- identifying quarantine areas and boundaries for pests, both in the field, and on relevant maps.
  - participation in cross-sector initiatives for management of pests and weeds (e.g. OSPRI New Zealand or Dept of Conservation);
  - developing an integrated weed and pest management strategy consistent with principles outlined in the National interest pest response programmes, National pest management strategies and priorities and Regional pest management plans;
  - having systems in place to ensure compliance with Regional Pest Management Plans

When developing strategies to control damage agents, the forest manager needs to take the following issues into account:

- the priority that has been placed on each pest;
- the effectiveness of strategies that may already be in place;
- whether total eradication of the pest is possible, practical or affordable;
- the capacity of the forest manager to control damage agent vectors; and
- if total eradication is not possible or practical, what is a tolerable level of damage;

The forest manager may consider it prudent to implement a monitoring program that:

- continually monitors for emergence of new pests and weeds;
- periodically monitors the location, extent and severity of existing damage agents; and

- assesses the effectiveness of control strategies and procedures; and

Based on monitoring results, pest control strategies and procedures may be amended or augmented if they are not providing an adequate level of control over the pest.

### **Sources of information**

Appropriate sources of information may include:

- Ministry for Primary Industries;
- Scion and Landcare Research;
- Regional Councils; and
- experts and specialists.

## ***Requirement 5.4 Fire and Disturbance Regimes***

### **GUIDE TO VERIFICATION**

#### *Plantations*

Not relevant.

#### *Native Forest*

This requirement is not relevant to native forest in New Zealand.

## ***Requirement 5.5 Rehabilitate Degraded Forest***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to promote rehabilitation of degraded or damaged forests to return them to an acceptable standard of health, structure and stocking for commercial or non-commercial purposes.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That the impact of damage agents has been assessed.

That where appropriate, feasible options for rehabilitation are assessed.

That cost effective and practicable rehabilitation action is implemented.

#### **Indicators**

Evaluation and/or assessment of significance and extent of damage.

Plans and/or operational procedures committing to rehabilitation.

## **GUIDE TO IMPLEMENTATION**

It is recognised that markets for damaged wood, the capacity to fund rehabilitation works and the future worth of the forest once rehabilitated will influence what is reasonably practicable for the forest manager in the implementation of this requirement.

Policies and procedures applicable to forest management planning may facilitate the identification and consideration of degraded or damaged forests and the monitoring of the success of any rehabilitation program.

Appropriate actions might include:

- identifying degraded or damaged forests and assessing their potential for rehabilitation;
- consideration of market capacity for damaged wood;
- prioritising rehabilitation requirements;
- developing action plans that are soundly based on research, financial and operational needs and which demonstrate intention to rehabilitate degraded or damaged forests, such as controlling access, where necessary, to facilitate rehabilitation; and
- develop specifications for rehabilitation (e.g. composition, stocking rates, reduction of damage agents) required to achieve the desired level of rehabilitation and ecosystem health;

### *Native Forest*

- consultation and involvement with volunteer or community groups or Iwi representatives in rehabilitation efforts

## ***Requirement 5.6 Chemical Use***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to reduce reliance on the use of chemicals consistent with the availability of practical and cost effective alternatives and to prevent the use of undesirable chemicals. The offsite and secondary negative impacts of chemical use is limited and all legal requirements are met.

Chemicals include any pesticides, herbicides and fertilizers used in forest management activities.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That legal obligations and other relevant guidelines for use of chemicals are identified and assessed.

That use of chemicals is documented, to record precise usage including rationale for use, site description, rate and method of application.

That options or alternative measures to reduce reliance on the use of chemicals have been identified and assessed for effectiveness and cost, and are periodically reviewed.

That records show that unauthorised chemicals have not been used.

That forest management planning and operational controls are periodically reviewed to incorporate viable options or measures to reduce reliance on the use of chemicals.

### **Indicators**

Plans and operational procedures for chemical use.

Records of monitoring of chemical usage.

Records of assessment of alternative measures.

Use of the most environmentally benign chemicals available (subject to being viable and cost effective).

### **GUIDE TO IMPLEMENTATION**

Alternatives measures to the use of chemicals might include safe biological control agents and mechanical methods. Assessment of alternative measures might determine whether they are viable and cost-effective in delivering similar results (for example in terms of maintaining productive capacity or control of pests) while not increasing risk of adverse impacts or foregoing achievement of critical forest management outcomes. Options and measures to reduce reliance on actual chemical use would also include consideration of operational controls as part of integrated pest/pathogen management systems.

Appropriate actions might include:

- consideration of the in-situ environmental impacts in the assessment of chemical selection for use;
- ensuring awareness of relevant regulatory requirements for chemical use and manufacturers' instructions and guidelines;
- documenting the use of chemicals, including rationale for use, site description, rate and method of application;
- avoiding chemicals and application methods with high risks of undesirable non-target impacts;
- implementing nutrient management and alternative weed management strategies;
- a chemical use strategy which reduces reliance on less environmentally friendly chemicals in favour of more environmentally friendly chemicals;
- making decisions about types of chemicals that the forest manager will not use based on assessments of toxicity, bio-accumulativeness and persistence such as the WHO type 1a and 1b chlorinated hydrocarbons; and



- Use of fertiliser only where there is a demonstrated need via soil and foliage analyses.

It is recognised that in the context of this requirement that the use of a fertiliser regime in native forests is generally not favoured unless justification and benefits for its adoption, including a risk assessment, have been undertaken by the forest manager.

## ***Requirement 5.7 Damage Agent Salvage Operations***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that salvage operations following a fire or disease outbreak are undertaken in a manner that does not increase any negative environmental, social and cultural impacts of the event and can protect the economic values in the affected forest products.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That salvage operations have been planned or pre planned to accommodate the requirement.

#### **Indicators**

The forest management considers and evaluates the aspects and impacts associated with the recovery of economic value from damaged forests in compliance with the requirement.

### **GUIDE TO IMPLEMENTATION**

In the absence of a fire or disease outbreak this requirement does not apply. Salvage operations may never be required by a forest manager. The aspect and impacts of potential damage to stands should be considered and assessed for significance and control measures. The recovery of forest products can be pre-planned to meet the conditions specified in this requirement. If not pre-planned then procedures can be in place to ensure adequate planning occurs before salvage operations commence.

The additional stringent conditions for salvage operations can be set by the forest manager and shall be a risk based approach to protect the affected values. Reserve areas identified in the Forest Management Plan must be excluded from salvage harvesting operations.

## **CRITERION 6 –Soil and Water Resources**

The intent of the requirements under this criterion is to maintain the protective and productive functions of forests and their ecosystem services to society through good management of factors, such as erosion, vegetation cover, and chemical pollutants and contaminants that affect a range of important soil and water properties, such as soil biology, structure and fertility, water quality and water flows.

While the requirements are specific for the forest manager, it should be noted that there are a number of landscape scale issues where the responsibility for stewardship is shared among a number of catchments or land users, and the forest manager's responsibility is part of a broader community of land managers in the regional landscape.

Other issues relating to protection of soil and water resources are addressed under Criterion 4, which deals with maintenance of long-term site productivity.

### ***Requirement 6.1 Identify Soil and Water Values***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers are cognisant of relevant and potential soil and water values of management concern, are able to identify such values in the field and are able to assess the impact of the values in relation to prevention/control measures.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That relevant soil and water values of management concern have been identified.

That appropriate specifications for acceptable levels of concern for relevant properties, and their assessment, exists.

#### **Indicators**

List of identified soil and water values that can be adversely affected by forest operations.

Record of assessment of soil and water values identified as being adversely affected by forest operations (links with requirements 1.2 and 1.3).

Forest Management Plan that addresses impacts of forest operations on identified soil and water values.

Records of review of regional catchment studies and catchment management objectives to identify significant values and threats.

Records of consultation with relevant land managers, soil conservators, hydrologists and other competent personnel to identify significant values and threats.

Records of consultation with tangata whenua in relation to soil and water values.

## **GUIDE TO IMPLEMENTATION**

In the context of this requirement, the key issues to consider are the impacts that erosion, compaction, contamination and fertility linked to soil structure may have on identified soil and water values.

Appropriate actions might include:

- systematic assessment of erosion hazard and compaction potential;
- identification of optimum timing for undertaking forest operations dependent on soil conditions;
- identification of waterways and their values
- inventory of road waterway crossings.

### **Sources of information**

Appropriate sources of information may include:

- Freshwater Ecosystems of New Zealand (FENZ) Geodatabase (NIWA)
- Regional Council stream classifications
- Any water quality limits or rules applicable to forestry, developed by Regional Councils to give effect to the New Zealand National Policy Statement for Freshwater Management (2014)
- Regional catchment studies (e.g. those by research bodies such as universities, Crown Research Institutes and Regional Councils);
- NZ Freshwater Fisheries database
- Plantation Forestry National Environmental Standard Fish Spawning and Migration prediction tool
- NZ Land Resource Inventory (NZLRI) and associated Land Use Capability (LUC) mapping
- High erosion risk areas identified in Regional Plans

## ***Requirement 6.2 Water Quality***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to minimise the impact of forest operations on critical water quality parameters beyond the range of natural variation.

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That management planning demonstrates a consideration of water quality and regional catchment objectives and incorporates these into the Forest Management Plan and operational plans where applicable.

That appropriate action is taken in the field to protect and maintain water quality.

### **Indicators**

A Forest Management Plan, that identifies waterways, position of riparian zones, buffer strips and protected areas.

Operational plans, codes of practice, operational procedures and programs for minimising soil transport from disturbed areas, maintaining riparian zones and buffer strips, and the design, construction and maintenance of roads and roadway crossings of waterways are in place.

#### *Large and Medium Forest Managers*

Records of the results of water quality monitoring and research.

### **GUIDE TO IMPLEMENTATION**

Forest operations have the potential to impact on water quality primarily by causing particulates and sediment to enter streams. The potential for impact on water quality increases with soil erodibility and slope, particularly in areas subject to high intensity rainfall events.

Appropriate action to safeguard catchment and water values might be specified in environmental guidelines or work plans or prescriptions. These could specify:

- water bodies and waterways at high risk of degradation;
- areas where operations must be excluded or restricted under certain circumstances;
- adhering to protective measures specified in the NZ Forest Road Engineering Manual, the NZ Environmental Code of Practice for Plantation Forestry, Regional Council sediment and erosion control guidelines, and applicable resource consents.
- implementing practices to minimise transport of soil from disturbed areas into waterways;
- operating conditions for forest operations such as for timing of operations; locating, designing, constructing and maintaining roads; regulating the use of roads; roadway crossings of waterways to recognised standards intended to minimise degradation of water quality;

#### *Large and Medium Forest Managers*

- identifying features of significance for maintenance of water quality that occur in the operating area that must be protected during forest operations such as ephemeral streams and floodplains or riparian zones and vegetation that enhances soil and water resources e.g. wetlands;
- assessment of forest land use capability class to minimise risk of damage;
- zonation of forest to take into account features of significance for the maintenance of water quality;
- matching timber extraction systems to the soil type, topography and rainfall characteristics;

- participation in or contribution to regional bodies dealing with catchment and vegetation management;
- monitoring water quality and (where consistent with natural conditions) comparing this against the Australian and New Zealand Guidelines for fresh and marine water quality (2000) or relevant Regional Council water quality limits specified for the catchment.

### **Sources of information**

Appropriate sources of information may include:

- Regional Council guidance documents such as erosion and sediment control guidelines and plantation forestry guidelines.
- NZ Forest Road Engineering Manual
- NZ Environmental Code of Practice for Plantation Forestry

## ***Requirement 6.3 Water Quantity***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to promote management planning primarily for forest establishment and age class structures that considers relevant actions in relation to the information that is available on stream flows and water yields and seeks to minimise adverse environmental and commercial impacts of changes in hydrological flows.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That impacts of forest management on water yield are in accord with any applicable Regional Plan constraints related to catchment water yield relevant to forestry.

That appropriate action is taken to minimise the risk of significant adverse effects as a result of harvesting (e.g. storm damage).

#### **Indicators**

Records of review of catchment studies and relevant Regional Plan rules relating to water yield.

Records of consultation with relevant land and water managers, specialists in catchment modelling and other competent personnel.

Maps and other planning instruments.

### **GUIDE TO IMPLEMENTATION**

In the context of this requirement, it does not require forest managers to establish regional catchment goals but to respect them where they are developed through appropriate processes.

It is recognised that while the timing and volume of flows are largely beyond the control of forest managers, the distribution of forests and forest operations in a catchment and over time can have an impact on flows. Forest managers also need to recognise the historical variations in stream flows.

#### *Large and Medium Forest Managers*

Appropriate actions might include:

- providing for the temporal and spatial dispersal of forest harvesting operations throughout the defined forest area to comply with any applicable Regional Plan rules related to water yield;
- developing best practice operating guidelines to safeguard catchment and water values; and
- maintaining a mosaic of different age classes in a catchment where required to mitigate identified high risk of downstream effects

#### **Sources of information**

Appropriate sources of information may include:

- Any applicable rules in Regional Plans controlling plantation forestry in relation to water yield
- Catchment studies and hydrological data held by agencies such as Regional Councils

## ***Requirement 6.4 Soil Properties***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that the design and conduct of forest operation takes into account the need to maintain soil physical, chemical and biological properties and if suitable situations arise to improve those properties.

#### *Plantations*

In the context of this requirement, it should be noted that preparation for plantation establishment may involve significant soil management or cultivation (e.g. spot cultivation, deep ripping, mounding, discing) with the specific aim of improving soil properties for tree survival and growth.

**Type of requirement**

Document-based evaluation with verification in the field.

**Basis of assessment**

That relevant soil properties are identified and assessed for their significance in relation to erosion hazard and/or compaction potential.

That identified soil properties are considered in the design of forest operations and appropriate action taken during forest operations to protect, maintain and enhance soil properties.

That soil movement is minimised during slash management activities.

That nutrient loss through the removal of nutrients in harvested forest products is recognised.

That actions are taken in forest operational areas to prevent significant soil movement.

That, where required, restoration or rehabilitation of forest operational areas is undertaken.

**Indicators**

Reviewed regional soil studies for consideration in management planning and implementation of forest operations.

Records of consultation with relevant land managers and other competent personnel.

Recorded known soil properties on maps or other planning instruments.

Records of evaluation of soil damage agents and options to avoid, minimise or correct damage.

Application of codes of practice or other appropriate operational procedures.

Appropriately designed and constructed roads, extraction tracks and log landings.

**GUIDE TO IMPLEMENTATION**

Natural soil capital is vitally important to nearly all ecosystem cycles and functions and primary production cycles. Forest soil loss or physical redistribution can lower soil fertility and affect sediment delivery to streams. Changes in soil physical, chemical and biological properties due to forest management activities can adversely affect soil fertility and thus ecosystem and production processes.

Protecting natural soil capital includes consideration of:

- protection of soil structure and fertility;
- minimising nutrient loss as a result of nutrient take-off due to harvesting and other management operations (e.g. non-burning of logging slash) in so far as the mechanics of the process are understood; and
- protection of soil stability and providing erosion control.

To meet this requirement, the forest manager may consider:

- systematically assessing areas for erosion hazard prior to work commencing;
- strategies to minimise major soil disturbance within forest harvesting areas;
- identifying or developing and implementing appropriate operational guidelines or procedures where not already required by legislation;
- restoring or rehabilitating log landings, extraction tracks, temporary roads and product storage areas in accordance with relevant resource consents, codes of practice or equivalent instruments or operational guidelines.

#### *Large and Medium Forest Managers*

- designing and implementing forest operations (including silvicultural techniques, temporary and permanent roadways, extraction tracks and product storage areas) to take account of the topography and specific soil types and qualities known or believed to occur at the site of forest operations and in accordance with relevant codes of practice or equivalent instruments or operational guidelines; and
- strategies to manage nutrient loss and take-off in harvesting, site preparation and establishment practices;

#### *All Forest Managers*

In the context of this requirement, zones of major soil disturbance are typically log landings, access tracks, fire breaks, temporary tracks used for machinery movement around a coupe and extraction tracks and relates to harvesting activities only.

Minimising soil disturbance, managing water flows, maintaining debris cover or establishing cover crops, as appropriate may minimise soil erosion.

Appropriate action to safeguard soil properties might be specified in operating guidelines which may specify:

- areas where operations must be excluded;
- features that occur in the operating area that must be protected during forest operations; and
- operating conditions for forest operations and other measures which regulate site disturbance.
- maintaining the integrity of the litter layer and understorey compatible with natural cycles;
- minimising soil re-distribution down slope;
- maintaining site organic matter and nutrient supplying capacity, particularly through management of slash material;
- timing of operations in relation to seasonal weather patterns;
- closing operations in conditions when unacceptable soil damage would occur;
- ensuring that operational plans consider factors such as harvesting unit size, slope and topography; design and location of landings and extraction tracks; harvesting equipment; and areas excluded from harvesting;
- rehabilitating extraction tracks, temporary roads, log dumps and any other earthworks associated with harvesting operations;
- assessing erosion hazard based on soil erodibility, rainfall and slope;
- selecting techniques appropriate to erosion hazard;
- applying an appropriate nutrient management regime.



## Sources of information

Appropriate sources of information may include:

- The New Zealand Land Resource Inventory (NZLRI) Land Use Capability (LUC) classification
- NZ Fundamental Soils layer (Landcare Research)
- S-Map web-based soils mapping
- Relevant forest site productivity trials by various agencies (Site Management Co-ops, Forest Research Institute and Scion)

## *Requirement 6.5 Pollution*

### GUIDE TO VERIFICATION

The intent of this requirement is to promote appropriate management of chemical application activities and forest operations so that pollution and contamination of soil and waterways is avoided, minimised or rehabilitated and to ensure the proper disposal of any waste.

#### Type of requirement

Document-based evaluation with verification in the field.

#### Basis of assessment

That legal obligations and other relevant guidelines for preventing or constraining water pollution and soil contamination are identified and assessed for their implications for the forest manager.

That management planning and operational activities demonstrate consideration of water pollution and soil contamination agents and appropriate controls are in place for relevant activities.

That appropriate monitoring procedures are in place.

That response and remedial action plans have been developed and implemented where necessary.

That there is no evidence of significant or systematic non-compliance with relevant legislation or codes of practice resulting in water and soil pollution.

#### Indicators

Records of reviews of legal obligations and other requirements.

Evaluation of polluting and contaminating agents and options to avoid or minimise damage.

An Environmental Management System (EMS) or equivalent system includes adequate controls to manage the potential impacts associated with the storage, transport and use of chemicals and hydrocarbons, and the management and disposal of waste.

Existence of remedial action plans.

Results of monitoring.

## **GUIDE TO IMPLEMENTATION**

To meet this requirement, the forest manager could consider:

- preventative and corrective procedures to prevent and contain spills
- planning prescriptions and management procedures to minimise the risk of overspray from chemical spraying operations affecting adjacent protected areas such as native vegetation and waterways or being transported into waterways;
- measures to ensure transport, storage, transfer and disposal of fuels, lubricants and chemicals is undertaken in such a way that the risk of water pollution and soil contamination is minimised;
- prescribed methods for disposal of waste fuels, lubricants and chemicals;
- relevant Regional and District Plan rules relating to chemical use
- The Approved Code of Practice for Safety and Health in Forest Operations (section 9)
- New Zealand Standard for the Management of Agrichemicals (NZS 8409:2004).

### *Large and Medium Forest Managers*

- response and remedial plans to mitigate water pollution and soil contamination incidents including risk assessments and routine testing.

### *All Forest Managers*

Within the context of this requirement, risk includes a consideration of both the likelihood and the consequence of the pollution or contamination within the defined forest area.

Appropriate actions might also include:

- documenting and monitoring use and application of chemicals;
- periodic water testing following use of chemicals in forest operations;
- consideration of the in-situ environmental impacts in the assessment of chemical selection for use;
- providing equipment and training for staff and workers, and operators to minimise health and environmental risks;
- ensuring awareness of relevant regulatory requirements for chemical use and manufacturers instructions and guidelines; and
- ensuring buffers are in place around water ways.

In the context of this requirement, chemicals include:

- fertilisers;
- pesticides;
- fuel and lubricants; and
- bio-solids.

## **CRITERION 7 – Forest Carbon**

The intent of the requirements under this criterion is to maintain the capacity of forests to contribute to the carbon cycle and to minimise the emission of greenhouse gases resulting from the use of fossil fuels by forest activities by good management of the forest ecosystem biomass and carbon pool (including standing vegetation, coarse woody debris, peat and soil carbon).

## ***Requirement 7.1 Carbon Cycle***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to promote consideration of and a commitment to planning and practice options that recognise the forest’s role as an important part of the carbon cycle.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That the carbon stored and sequestered in the forests is considered in planning and management of forest operations.

That any guidelines, procedures and prescriptions to minimise carbon losses are documented.

#### **Indicators**

Evaluation of consideration of carbon cycle analysis in planning and management.

### **GUIDE TO IMPLEMENTATION**

Forest managers might seek to monitor their carbon balance across the define forest area.

Appropriate actions might include:

- evaluation of compliance with Government policies and legislation on carbon management;
- processes in place to ensure compliance with the Climate Change Response Act and associated regulations (Emissions Trading Scheme); and
- evaluation of opportunities for trading carbon

#### **Sources of information**

Appropriate sources of information may include:

- The Climate Change Response Act and Regulations;
- Ministry for the Environment. 2014. Guidance for Voluntary Corporate Greenhouse Gas Reporting: Data and Methods for the 2012 Calendar Year;
- New Zealand's Greenhouse Gas Inventory.

## ***Requirement 7.2 Minimize Fossil Fuel Use***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to promote consideration of and a commitment to planning and practice options that reduce greenhouse gas emissions from the use of fossil fuels.

**Type of requirement**

Document-based evaluation.

**Basis of assessment**

That minimisation of fossil fuel use is considered in planning and management of forest operations and the conduct of the enterprise.

That any guidelines, procedures and prescriptions to minimise fossil fuel use are documented.

**Indicators**

A policy statement demonstrating a commitment to minimising fossil fuel use.

*Large and Medium Forest Managers*

Plans, operational procedures, guidelines and procedures to minimise greenhouse gas emissions from fossil fuels.

An evaluation of greenhouse gas emissions from fossil fuels in the conduct of the enterprise and from forest operations.

**GUIDE TO IMPLEMENTATION**

Forest managers might seek to reduce fuel consumption in order to reduce costs and achieve efficiencies in operational activities.

Appropriate actions might include:

- evaluation of practices to minimise greenhouse gas emissions from fossil fuels;
- evaluation of compliance with the Climate Change Response Act and relevant associated regulations
- evaluation of strategies and options for improving fuel efficiency and reducing fossil fuel consumption;
- evaluation of opportunities for producing renewable energy; and
- regular servicing of equipment to promote efficiency in use.

**Sources of information**

Appropriate sources of information may include:

- The Energy Efficiency and Conservation Authority.

***Requirement 7.3 Measurement of Carbon Storage***

**GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers are able to assess the contribution of the forests within the defined forest area to the carbon cycle by having an estimate of the quantum of the carbon stock currently and in the future.

### **Type of requirement**

Document-based evaluation.

### **Basis of assessment**

That the size of the carbon stock in the forests is considered in planning and management of forest operations.

That any guidelines, procedures and prescriptions to measure carbon storage are documented.

### **Indicators**

An estimate of the carbon storage has been documented.

The methodology for calculating the estimate is recorded and justified.

There is a time series of estimates that include future estimates that demonstrate the impacts of the operations expected from the Forest Management Plan on carbon storage.

## **GUIDE TO IMPLEMENTATION**

Forest managers should seek to estimate their carbon storage across the defined forest area.

Appropriate actions might include:

- estimate current carbon storage; and
- estimate future carbon storage.

### **Sources of information**

Appropriate sources of information may include:

- The Climate Change Response Act and associated Regulations;
- Ministry for the Environment. 2014. Guidance for Voluntary Corporate Greenhouse Gas Reporting: Data and Methods for the 2012 Calendar Year;
- IPCC 2007 reports relating to forestry and accounting methodologies;
- Websites of the Ministry for Primary Industries and Ministry for the Environment

## **CRITERION 8 – Cultural Values**

The intent of the requirements under this criterion is to recognise rights of forest users and to ensure protection of:

- sites of cultural heritage, ceremonial and spiritual affiliation, aesthetic and religious value (that is, cultural, religious, spiritual, and social heritage values); and
- other natural heritage values not already catered for at Criterion 3 (biodiversity) and Criterion 6 (soil and water).
- The rights of maori under the Treaty of Waitangi

The requirements recognise that there is a connection between management of forests and forested lands and these values for the benefit of society.

### ***Requirement 8.1 Indigenous Peoples’ Values***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to recognise and uphold the rights, and values of tangata whenua who hold traditional cultural connection or mana whenua over their ancestral lands and taonga.

#### **Type of requirement**

Document-based evaluation with interview verification.

#### **Basis of assessment**

That appropriate consultation is initiated or occurs with tangata whenua to identify and acknowledge their traditional knowledge of heritage, cultural and ecological values, forest management and the use of forest species and other non-wood products.

That where practicable and appropriate traditional knowledge is utilised in the management of forest species and other non-wood products.

That where practicable forest managers support the economic and social aspirations of tangata whenua, and in particular the landowners of maori owned land under forest leases.

#### **Indicators**

Records of consultation, hui and agreements with tangata whenua organisations

Partnerships or co-operative land use agreements with tangata whenua

Evidence that plans and operational procedures have taken into account the wishes and values expressed by tangata whenua organisations

Use of the forest for non-wood product ventures to advance the economic and social aspirations of tangata whenua

## GUIDE TO IMPLEMENTATION

Forest Managers shall recognise the rights, responsibilities and values of tangata whenua who hold mana whenua to the lands under the defined forest area.

Maori hold special status under various pieces of New Zealand legislation, including the Resource Management Act.

Maori are also a significant landowner of forest lands. Where this is the case additional rights and values will generally be specified in lease and joint venture agreements which must be respected and complied with.

Appropriate actions might include:

- holding details of tangata whenua and their mandated representatives;
- documented records of resource and tenure rights of tangata whenua in or bordering the defined forest area;
- documented evidence of consultation and hui with tangata whenua in relation to cultural values, aspirations and customary or traditional rights relating to the defined forest area.
- documentation of any disputes between the forest manager and tangata whenua relating to the defined forest area and evidence of attempts to achieve resolution of such disputes;
- measures taken to protect the customary rights, values, interests and sites of significance of tangata whenua identified through consultation;
- consideration of relevant Iwi Environmental Management Plans in the development of forest management and operation plans, and incorporation of relevant aspects to give effect to Iwi Environmental Management Plans;
- use of the forest for non-wood product ventures to advance the economic and social aspirations of tangata whenua.

### Sources of information

Appropriate sources of information may include:

- direct engagement with tangata whenua;
- Iwi Environmental Management Plans.

## ***Requirement 8.2 Indigenous Heritage Values***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure as far as practicable, the protection of areas of cultural and spiritual heritage of tangata whenua in or adjoining the defined forest area from impacts of forest management operations.

#### **Type of requirement**

Document-based evaluation with interview verification.

#### **Basis of assessment**

That appropriate procedures and protocols are in place, that have been developed in consultation with tangata representatives, to identify sites of heritage and cultural value, and ensure their protection as far as practicable.

#### **Indicators**

Records of consultation or invitations to consult with tangata whenua.

Plans and operational procedures detailing the processes for identification (including accidental discovery), protection and long term management of sites of heritage and cultural value, incorporating the outcomes of consultation with tangata whenua.

Records/maps of sites of heritage and cultural value to tangata whenua in the defined forest area. Where requested by tangata whenua the use of alternative means of recording sites (eg silent files).

### **GUIDE TO IMPLEMENTATION**

Forest Managers should have in place procedures to ensure that sites of heritage and cultural value to tangata whenua are identified prior to planning of operations, and as far as practical protected from damage during forestry operations. Forest Managers should consult with tangata whenua to assist in the identification of sites, and to ensure that the procedures for management of sites are in accordance with maori protocols.

Appropriate actions might include:

- consulting directly with tangata whenua;
- reviewing available records (NZAA database, Regional and District Plan historic sites maps) to identify any recorded sites;
- mapping of identifies sites in the defined forest area, or alternative means of identification if desired by tangata whenua (eg silent files);
- provision of positive opportunities for participation of tangata whenua in decision making in the protection of their heritage rights and values;



- adopting procedures that meet the legislative and legal requirements to protect cultural heritage sites and values and incorporate the agreed outcomes of consultation with tangata whenua;
- providing access to sites of heritage and cultural value by tangata whenua, except where legitimate fire, safety or tenure constraints exist.

### **Sources of information**

Appropriate sources of information may include:

- Regional and District Council historic sites records
- NZ Archaeological Association Database
- Heritage New Zealand Pouhere Taonga Act 2014
- Iwi Environmental Management Plans

## ***Requirement 8.3 Other Heritage Values***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that important cultural, religious, spiritual and social heritage values and sites are recognised and adequately protected during forest operations.

#### **Type of requirement**

Document-based evaluation with field verification.

#### **Basis of assessment**

That adequate processes are in place to identify any sites of cultural religious, spiritual and social heritage value in the defined forest area, and to ensure their protection as far as practicable during forest operations.

That assessment(s) of their significance have been arranged or have been undertaken where appropriate.

That the Forest Management Plan and forest operations take account of those values and identified significant sites in implementation by setting aside, protecting from forest operations or managing by prescription.

That there has been appropriate consultation and/or collaboration prior to any required approvals being obtained.

#### **Indicators**

Policies, operational procedures, guidelines or plans pertaining to values and sites.

Records of review of relevant records and information.

Records of approvals, where required, for forest operations.

Records of consultation with relevant individuals, organisations or forest managers.

## **GUIDE TO IMPLEMENTATION**

Appropriate action by the forest manager to safeguard heritage values might include:

- implementation of zoning practices in culturally significant areas so that no degradation or disturbance occurs to highly sensitive regions during forest operations;
- safeguarding heritage values through identification of known values and by regularly updating inventories of heritage values;
- identification of important heritage values by recording on maps or other planning instruments;
- consideration of important heritage values in the preparation of Forest Management Plan and appropriate actions implemented in consultation with the appropriate bodies;
- development of procedures and operational guidelines to protect heritage values as far as practicable from the impacts of forest operations and ensure compliance with legal requirements;
- obtaining the necessary approvals under the Heritage NZ Pouhere Taonga Act where recorded historic sites cannot practically be protected from forestry operations (eg removal of existing trees growing on sites).
- collaboration with heritage and tourism interests to facilitate the protection and enjoyment of heritage values where appropriate; and
- providing details of any new sites discovered during forest operations and subsequently confirmed by an archaeologist, to the NZ Archaeological Association.

In the context of this requirement, natural, cultural and biological heritage values may include trees or stands of special cultural or social significance, such as arboreta, geomorphological features, national estate and landscape, and high scenic quality.

## ***Requirement 8.4 Legal and Traditional Uses***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to maintain pre-existing rights to the use of forested lands, for legal and traditional uses. Where such uses threaten the integrity of the defined forest area or the achievement of the forest management performance criteria, the forest manager should pursue negotiated outcomes.

#### **Type of requirement**

Document-based evaluation with field verification.

#### **Basis of assessment**

That there has been an evaluation of community and indigenous legal, traditional and customary rights and uses in conjunction with relevant parties or communities that make use of the defined forest area.

That there is no evidence of unreasonable refusal of access for existing legal rights or traditional uses.

That the legal rights of local communities to natural resources located in the defined forest area are respected and adhered to.

That forest-based recreation and forest-based tourism is permitted in approved areas where appropriate.

That there has been an evaluation of the impact of existing legal rights or traditional uses of the forests on the integrity of the defined forest area or the achievement of the forest management performance criteria.

That existing legal and traditional uses are on a scale that does not threaten the integrity of the defined forest area or the objectives of forest management.

That disputes over tenure claims and use rights are resolved through appropriate processes including as necessary mediation and/or legal process.

That conflicts between existing legal and traditional uses and the integrity of the defined forest area or the forest management performance requirements are resolved by negotiation utilising dispute resolution mechanisms identified.

### **Indicators**

Records of legal and traditional use rights in the defined forest area.

Records of assessments of significance of impact of legal or traditional uses on the defined forest area.

Access agreements for permissive or traditional uses.

Records of approvals for authorised activities.

Records of consultation with relevant individuals, organisations and land managers.

### **GUIDE TO IMPLEMENTATION**

Forest managers should have a system for identifying and recording all existing legal or traditional uses of the forest within the defined forest area, and processes in place to allow for such use whilst managing safety and other potential impacts within the forest from such use.

Appropriate actions might include:

- identifying all existing legal and traditional uses within the defined forest area, and putting in place processes to allow for such uses whilst also managing safety and the potential impacts of such use on the defined forest area.
- providing access for traditional uses by tangata whenua to meet spiritual and cultural needs;
- respecting the rights of tangata whenua and local communities to natural resources pertaining to the land;

- where there are special demands for further public access, reasonable efforts are made to assess and where practical meet this demand; and
- ensuring relevant health and safety requirements are managed in accordance with the Health and Safety at Work Act and associated regulations in the pursuance of any legal rights or uses of the defined forest area.

Where forest has been transferred from crown to private ownership any legal rights to traditional use should be explicitly identified and treated at the time of transfer. Access to fishing and hunting rights are controlled by the relevant legislation and the laws of trespass can continue to apply. It is recognised that in the case of non-freehold land managed by the forest manager, public access may be constrained by provisions within the management agreement (lease, forestry right etc).

## **CRITERION 9 – Social and Economic Benefits**

The intent of the requirements under this criterion is to ensure forest managers take into account the role of forests in meeting community needs, including wood production, recreation and tourism, employment, income, and social well-being, when developing forest management plans. This is particularly important for regional communities with a high economic and social reliance on forests and forest-related industries.

### ***Requirement 9.1 Regional Development***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers identify opportunities in the management of the defined forest area that will both benefit and support regional communities with economic and social ties to the defined forest area and forest related industries.

This requirement includes adequate public access to forests for the purposes of recreation taking into account respect for ownership rights and the rights of others as well as effects on forest resources and compatibility with other functions of the forest

#### **Type of requirement**

Document-based evaluation and consultation with relevant regional bodies.

#### **Basis of assessment**

That forest management is cognisant of regional forest industry issues and the practicable opportunities that may flow from such issues having due regard to the role of forestry in rural and regional development and the environmental, economic, social and cultural requirements of the Standard.

That reasonable employment opportunities for regional contractors and suppliers are provided.

That forest managers contribute to the framework of regional communities at an appropriate level.

#### **Indicators**

Review of issues and practicable opportunities.

Contribution to regional forest based industries, employment and businesses.

Communication and consultation with regional bodies within commercial constraints.

Periodic economic, environmental and social reporting.

Recreation plans and facilities.

Commitment to support local processing and local procurement.

Educational programs.

## **GUIDE TO IMPLEMENTATION**

Appropriate regional bodies might include Regional and District Councils, regional development boards or equivalent, forest grower organisations/associations, city/town chambers of commerce, farm forestry networks, training or safety bodies, industry/university co-operative arrangements, regional community groups and other Non Government Organisations.

In the context of this requirement, the framework for regional communities may involve the activities undertaken by a forest manager both within the defined forest area and in the general region, which may not be considered as core activity of the organisation such as visitor and interpretation facilities, educational activities or sponsorship of events and persons, where appropriate.

On private land the forest manager is able to pursue outcomes that maximise economic return consistent with the requirements of the Standard.

Appropriate and practicable opportunities might relate to:

- commercial forestry;
- support for local processing and the development of further local processing opportunities;
- biodiversity projects;
- recreational opportunities and forest tourism;
- Iwi enterprises;
- educational activities; and
- sponsored landscape and/or environmental rehabilitation.

Appropriate actions might include:

- participation in, or contribution to, regional industry bodies and associations (where they exist);
- contributing to the flow of forest products to regional industries including new industries;
- use of regional service contractors, providers and businesses;
- making reasonable provision of employment opportunities for regional communities;
- contributing to the planning, establishing and maintaining/maintenance of infrastructure to facilitate efficient delivery of goods and services;
- promoting consideration of the benefits attributed to forests in the development of regional development plans;
- contributing to social benefit of forest management; and
- sponsorship opportunities which have economic or social benefits.

### ***Requirement 9.2 Optimal Use***

## GUIDE TO VERIFICATION

The intent of this requirement is to encourage forest managers to consider opportunities for value adding and procedures to maximise value of production, recognising that the market ultimately determines what is a saleable product and that forest managers can only harvest for sale what the forest is producing.

### Type of requirement

Document-based evaluation with verification in the field.

### Basis of assessment

That the forest management options for forest products are assessed and strategies/procedures developed, having due regard to the environmental, economic, social and cultural requirements of this Standard, for:

- adding value to a range of forest products;
- minimising waste resulting from harvesting;
- optimising production within sustainable limits;
- contributing to the planning, establishing and maintenance of infrastructure to facilitate efficient delivery of forest products and services whilst at the same time minimising negative impacts on the environment; and
- avoiding damage to other forest resources and products.

That forest managers consider procedures to maximise value of production.

That infrastructure for the efficient and effective delivery of forest products and services is established, maintained and protected for the benefits of society.

### Indicators

Forest Management Plan.

Marketing/commercial plan for forest products.

Record of assessment of product opportunities.

Operational procedures for product grading.

Assessment of silvicultural practices.

## GUIDE TO IMPLEMENTATION

Appropriate actions might include where appropriate to scale:

- ensuring felling and handling of the forest resource is carried out to maximise net log value recovery;
- competitive access to forest produce for large scale enterprises;
- providing for small scale and specialist market opportunities where practical and economically feasible;
- exploring new and potential markets commensurate with resource estimates;

- optimising recovery and use of products from operations where economically viable and within environmental constraints;
- exploring opportunities for local processing of the forest’s diversity of products;
- contributing to the planning, establishing and maintenance of infrastructure (such as roads and bridges) to facilitate efficient delivery of forest products and services; and
- providing opportunities for non-wood products as an integrated component of the output of the forest rotation/cutting cycle.

### ***Requirement 9.3 Illegal Activities***

#### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure the forest manager has appropriate processes in place to prevent unauthorised or illegal activities within the defined forest area, as far as practicable.

#### **Type of requirement**

Document-based evaluation.

#### **Basis of assessment**

That forest management has the relevant and appropriate controls in place to reduce the impacts of illegal activities.

That illegal activities are reported to the appropriate authorities.

That forest managers have procedures to assist the collection of evidence to support authorities in their prosecution of illegal activities.

#### **Indicators**

Reviews of the aspects and impacts of illegal activities.

The Forest Management Plan and procedures recognise illegal activities and reasonably mitigate the impacts where they are significant.

Communication and consultation with relevant authorities.

Infrastructure such as signs and gates are used to warn or control access.

#### **GUIDE TO IMPLEMENTATION**

Illegal activities can impact on the operations of forest managers and their contractors and stakeholders.

Appropriate procedures and controls can be considered to prevent or minimise these activities where the impacts are significant.

Appropriate and practicable opportunities might relate to:

- restricting access to private lands;



- signs warning people about illegal activities;
- working with relevant authorities to prevent, control and prosecute illegal activities; and
- use of gates and security personnel to deter and manage illegal access.

## ***Requirement 9.4 Skills Development***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that forest managers are committed to support employment and skills development of forest workers with general, technical and vocational education guidance and vocational training closely linked with organisational needs and employment needs alike.

#### **Type of requirement**

Document-based and interview evaluation.

#### **Basis of assessment**

That there is a commitment to skills development through, but not limited to, nationally endorsed and or recognised competencies and qualifications, in line with organisational needs and requirements as well as in line with forest workers' aspirations, and on an equal basis and without discrimination.

That there is commitment to long-term employment relationships between the enterprise and all types of forest workers engaging with the business.

That there is reasonable provision of employment opportunities for people in regional communities.

That there is ongoing dialogue with unions representing forest workers, at an appropriate level.

#### **Indicators**

Current training development plan including ongoing skills development strategies for specific job function for all levels of the workforce and for all forest workers and, support for contractors to do the same. Provision of opportunities for forest workers to develop through various stages of their careers.

Provision of training opportunities for forest workers including access to government funding and training programs, when available.

Provision of training budgets.

Provision of strategies to attract, develop and retain appropriately skilled forest workers.

Human resource policy related to skills development, workforce qualifications and improvement in competency.

Identification of and introduction to new technology for acquiring and/or enhancing technical, non-technical and general skills.

Workforce diversity training for forest workers.

## **GUIDE TO IMPLEMENTATION**

The benefit of ongoing access to both skilled staff and workers and a skilled employment pool needs to be considered when planning activities given the multiple functions of forests and the seasonal nature of some work, e.g. fire season, planting, pruning/thinning, nursery, pests and weed control.

Appropriate actions might include:

- balancing the work program to provide continuity of work so as to retain and upskill workers;
- ensuring employment opportunities are open and available to local communities;
- involvement with industry bodies that promote skill development and regional development;
- commitment to supporting labour adaptability and flexibility through skills upgrading and improved use of applicable technology;
- discussions with contractors about the development of their staff and employees;
- supporting local industry training organisations, including the provision of opportunities for work experience;
- monitoring contractors training records to ensure staff are appropriately trained for the tasks they perform;
- education and training for staff to improve awareness and understanding of Iwi values to gain an understanding of appropriate procedures and actions particularly for land management, heritage sites and other community issues;
- using national competency standards as a basis for skills development programs;
- consideration of the ILO convention (142) concerning vocational guidance and vocational training in the development of human resources

### **Sources of information**

Appropriate sources of information may include:

- Competenz;
- Regional education centres e.g. Te Wananga, Polytechnics, Universities or equivalent;
- Workplace training;
- Government agencies such as New Zealand Qualifications Authority (NZQA), Tertiary Education Commission (TEC) and the Ministry of Education;
- Relevant forestry based unions

## ***Requirement 9.5 Health and Safety***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to ensure that health and safety requirements are taken into account in the planning, organisation and supervision of forest operations and to provide a safe

and healthy workplace and safe work practices for staff and workers including contractors and seasonal employees.

### **Type of requirement**

Document-based evaluation with verification in the field.

### **Basis of assessment**

That the forest manager commits to occupational health and safety, including rehabilitation where practicable, and continuous improvement in workplace health and safety management.

That the forest manager has in place a comprehensive health and safety management system to manage all aspects of Health and Safety in the workplace under their control, to comply with relevant legislation and associated regulations.

That health and safety requirements are taken into account in planning, implementing and supervising forest operations.

That there is no evidence of material non-compliance with relevant occupational health and safety employment legislation.

### **Indicators**

Health and Safety policy statement.

Documented Health and Safety management system.

Occupational Health & Safety (OH&S) role in job descriptions of supervisors.

Safety programs for employees, contractors and seasonal staff.

Records of safety performance (incidence of accidents).

Safety committees or staff and worker awareness programs.

Operator licences/Certificates of competency.

### **GUIDE TO IMPLEMENTATION**

This requirement recognises that the provision of a safe workplace and the development and implementation of safe work practices provides benefits not just to the forest manager and the staff or workers but also provides broader community benefits particularly for families who are dependent on staff and workers.

Appropriate actions might include:

- putting in place a Health and Safety policy for staff and workers;
- putting in place a comprehensive Health and Safety management system covering all relevant aspects to manage the work place in accordance with the Health and Safety at Work Act and associated regulations;

- systematically undertaking risk assessment and as a result identifying hazards and preventative measures;
- ensuring that all operators are trained to designated industry standards in the safe and efficient use of equipment and machinery;
- all necessary equipment, tools, machines and substances are in safe and serviceable condition;
- putting in place auditing and checking processes to ensure contractors meet their safety specifications including compliance with relevant safety legislation; and
- putting in place procedures to ensure safety of the general public where relevant.

## ***Requirement 9.6 Workers Rights***

### **GUIDE TO VERIFICATION**

The intent of this requirement is to respect the rights of forest workers including their rights to join a union or association in the workplace and equality of employment and treatment

#### **Type of requirement**

Document-based evaluation with verification in the field.

#### **Basis of assessment**

That the forest manager has policies or equivalent instruments and actions to take account of equal employment opportunities for forest workers and freedom of association in the workplace.

That the forest manager respects the rights of forest workers including their right to form and join a trade union of their choice.

That the forest manager does not discriminate in hiring, advancement, dismissal, remuneration and employment-related benefits on any grounds other than on the potential employees' ability to perform the role.

That where the forest manager engages in collective bargaining with forest workers and their representatives, it is carried out in good faith and with best efforts to reach agreement.

That there is no evidence of non-compliance with employment legislation and collective agreements in force.

#### **Indicators**

Equal Employment Opportunity and other policy statements.

Records of inspections.

Payroll of enterprise and/or contractors.

Findings of employment surveys.

### **GUIDE TO IMPLEMENTATION**

Appropriate actions might include policies and procedures for:

- respecting the rights of staff and workers to join a union or association without fear of intimidation or reprisal;
- non-discrimination in hiring, advancement, dismissal, remuneration and employment-related benefits;
- fair remuneration for forest workers, including contractors and self-employed;
- use of grievance and compensation mechanisms ; and
- strict adherence to minimum age provisions of labour laws and avoiding the use of forest workers under 16 years of age in heavy or hazardous work except for the purpose of training.

This requirement is about protecting forest workers and their employment conditions. To demonstrate social sustainability a forest manager should have the interests of the forest workers defined in policy and practice. This requirement is not about changing the means by which forest managers engage forest workers. The workforce can continue to be made up of represented employees, non-represented employees, contractors on piece rates and any other legal methods of engagement. The right to associate includes the right to not associate. The protection against direct dealing is not to interfere with legal collective bargaining with forest workers not represented by a union.

The access of officials from workers organisations to forest workers in the workplace can recognise the type and nature of the forest manager's operations. Facilities may be limited in forest locations and a practical approach is required to determining what is provided to ensure access is appropriate. Access to forest workers must be in accordance with 'right of entry' provisions set out in national legislation.

There will need to be a recognised balance between recruiting forest workers on skill and providing for equal treatment. Recruitment must be in-line with the capacity of the worker to undertake the specified work ahead of equal treatment on characteristics that will affect that capacity. In cases where capacity is not affected, equal treatment is afforded to all forest workers regardless of race, colour, sex, sexual preference, age, physical or mental disability, marital status, family or career responsibilities, pregnancy, religion, political opinion, union membership, national extraction, or social origin or any other personal characteristic.

Forest managers will be expected to ensure that contracts for forest management activities pass the obligations of this requirement to contractors who employ forest workers.

Through compliance with labour laws and respect for core International Labour Organisations (ILO) conventions, this requirement provides a framework for ensuring that workers receive an equitable share of benefits of forest management.

The core ILO conventions identified by the PEFC Sustainable Forest Management Requirements (PEFC ST 1003:2010) are:

- ILO No. 87, Freedom of Association and Protection of the Right to Organise Convention, 1948
- ILO No. 29, Forced Labour Convention, 1930
- ILO No. 98, Right to Organise and Collective Bargaining Convention, 1949
- ILO No. 100, Equal Remuneration Convention, 1951

- ILO No. 105, Abolition of Forced Labour Convention, 1957
- ILO No. 111, Discrimination (Employment and Occupation) Convention, 1958
- ILO No. 138, Minimum Age Convention, 1973
- ILO No. 169, Indigenous and Tribal Peoples Convention, 1989
- ILO No. 182, Worst Forms of Child Labour Convention, 1999.

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The New Zealand Forest Certification Association (NZFCA) is an Incorporated Society established for the purpose of promoting best practice forest management through the development, maintenance, use and promotion of forest standards in New Zealand. The NZFCA is the National Governing Body for the Programme for the Endorsement of Forest Certification (PEFC) in New Zealand and administers the PEFC Scheme in New Zealand.

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