# National Standard for Certification of Plantation Forest Management in New Zealand

# Approved Version 5.7

## FSC Code: FSC-STD-NZL-01-2012 New Zealand plantations EN

## Effective date: 27th September 2013

## Contents

# 1. Preface

## 1.1 The Forest Stewardship Council (FSC)

FSC is an independent, non-governmental, not for profit organization established to promote the responsible management of the world's forests.

It provides standard setting, trademark assurance and accreditation services for companies and organizations interested in responsible forestry. Products carrying the FSC label are independently certified to assure consumers that they come from forests that are managed to meet the social, economic and ecological needs of present and future generations. FSC maintains representation in more than 45 countries.

Forests provide us with clean water, fresh air, and help combat global warming. They also provide food, medicine and important natural resources, such as timber and paper. If managed responsibly, forests and plantations benefit both local and global communities. However, in some countries as much as 80% of the timber is harvested illegally. This often involves violation of human rights and felling of protected forests.

A strength of FSC certification is the assurance it provides processors and consumers of wood products that the wood they are purchasing is sourced from sustainably managed forest.

For further information, please visit: *www.fsc.org*

## 1.2 Standard Development Group

A National Initiative Working Group (NIWG) governed by an interim National Initiative commenced work on a National Standard for Certification of Plantation Forest Management in New Zealand in 2001. After one round of consultation the NIWG developed a second draft for consultation in 2003. However, the NIWG were unable to agree on some issues, primarily reserve contribution, and the NIWG was disbanded after the second consultation round. The second Draft was held in impasse until November 2009 when a group representing most plantation forest owners, major ENGOs, key social and Maori interests decided to form a Standard Development Group (SDG) and re-commence standard development in accordance with FSC procedures.

The SDG decided to commence using the second Draft and made a public announcement of intent in June 2010. The SDG is comprised of 2 representatives from four Chambers (Economic, Environment, Maori and Social), except that due to its diversity the Social Chamber has 3 representatives (with the voting rights of 2). See 4.2 for the membership of the SDG.

To ensure a balanced approach an independent facilitator was engaged. The SDG has made its decisions by consensus, defined as general agreement in favour of a proposal, plus the absence of a sustained objection to the proposal.

The SDG develop a draft which was forest tested in August 2010, and consequently amended by the SDG. The amended version was submitted for two months of consultation in late September 2010 and then modified taking into account feedback from the

Consultative Forum. This final version was approved to be submitted to FSC for approval by the SDG through a motion on general agreement on Friday 25 February 2011.

### 1.3 FSC Approval

Under FSC-STD-60-006 the SDG must obtain approval for the standard development process. This approval was granted by FSC in 2010.

## 2. Introduction

### 2.1 Purpose

This standard sets out the required elements against which FSC accredited Certification Bodies shall evaluate plantation forest management practices within the given scope of this standard.

The FSC Principles and Criteria for Forest Stewardship provide an internationally recognized standard for responsible forest management. However, any international standard for forest management needs to be adapted at the regional or national level in order to reflect the diverse legal, social and geographical conditions of forests in different parts of the world. The FSC Principles and Criteria therefore require the addition of indicators that are adapted to regional or national conditions in order to be implemented at the forest management unit level. The FSC Principles and Criteria together with a set of such indicators accredited by FSC constitute an FSC National Forest Stewardship Standard.

This standard follows the requirements of *FSC-STD-60-002 Structure and content of forest stewardship standards (November 2004) and FSC-GUI-60-004 (v1-0) EN FSC Forest Stewardship Standards*: structure*, content and suggested indicators* to improve consistency and transparency in certification decisions between different certification bodies in the region/nation and in different parts of the world, and thereby to enhance the credibility of the FSC certification scheme as a whole.

### 2.2 Scope

This standard is applicable to all plantation operations seeking FSC certification within New Zealand including SLIMF operations.

## 3. Version of the Standard

### 3.1 Version

| | |
|---|---|
| Current: | Draft 5.5 SDG Approved Standard for FSC Endorsement February 2012 – Amended in Response to FSC Review |
| Past: | Draft 1.1: December 2002<br>Draft 2.1 for consultation: November 2003<br>Draft 3.1 for Forest Testing: August 2010<br>Draft 4.1 Forest tested Draft for Consultation October 2010<br>Draft 5.1 First Draft following Consultation December 2010<br>Draft 5.2 Final Draft for FSC Approval February 2011<br>Draft 5.3 SDG Approved Standard for FSC Endorsement February 2011<br>Draft 5.4 SDG Approved Standard for FSC Endorsement September 2011 – Amended in Response to FSC Review |

Draft 5.5 - SDG Approved Standard for FSC Endorsement February 2012 – Amended in Response to FSC Review
Draft 5.6 SDG Approved Standard for FSC Endorsement August 2012 – Amended in Response to FSC Review
Draft 5.7 Final amendments in response to FSC approval – Pre-Conditions. June 2013

Next Anticipated: **FSC-STD-NZL-01-2013 New Zealand plantations EN**

## 3.2 Statement by the Standard Development Group

The draft National Standard for Plantation Forest Management is intended for use by forest managers and certification bodies in New Zealand. The Standard has been designed to stand alone and not require supporting documents. However there are several links to documents that provide guidance for forest managers, stakeholders and auditors. These documents are listed in section 4.4.

There are a number of areas within the Standard that may require ongoing attention. The intention for addressing these issues is to establish a governing National Initiative (NI) and one task will be to establish a National Pest Management Group (NPMG) for pesticides.
The National Pest Management Group will be appointed by the National Initiative with at least one representative from each chamber. The proposed objectives are:

1. Optimising communication between the chambers on matters relating to the use of chemicals in FSC forests, including the derogation processes.
2. Annually reporting to the NI on the activities of the NPMG
3. FSC international to have confidence in NZ Standard Development Group and/or National Office (should one be established).

Note: Where the standard refers to the Standard Development Group this will be superseded by a National Office once approved by FSC.

See Annex 6.2 for the NPMG Functions and Process.

## 3.3 Appropriate to the scale and intensity

In many Criteria FSC makes allowance for scale and intensity. In this Standard this has been differentiated in most cases by providing different indicators, verifiers and guidance for SLIMF (see definitions) forests.

For each Criterion a number of Indicators are listed. Where indicators are simply numbered, with no additional letter (e.g. Indicator 1.1.1), the indicator is intended to be applicable to all sizes and types of forest and plantation. An Indicator's number followed by a letter "L" makes it only applicable to large forests and a letter "S" refers to indicators only applicable to SLIMF's.

## 3.4 Principles and Criteria, Indicators, Verifiers and Guidance.

The standard follows the FSC Principles and Criteria and for each Criterion there are Indicators and in many cases Verifiers and Guidance as described below. This Standard is expected to be interpreted as normative.

**1. Principles and Criteria**

The Standard includes the FSC Principles and Criteria. These are depicted in bold and cannot be changed. Principles are an essential rule or element in FSC's position on forest stewardship. Criteria are a means of judging whether or not a Principle has been fulfilled.

**2. Indicator**

A quantitative or qualitative variable which can be measured or described and which provides a means of judging whether a forest management unit complies with the requirements of an FSC Criterion. Indicators and the associated thresholds thereby define the requirements for responsible forest management at the level of the forest management unit and are the primary basis of forest evaluation.

**3. Verifier**

A potential source of information that allows an auditor to evaluate compliance with an indicator. Means of verification are not normative and the certification body may justifiably use alternatives to those listed.

**4. Guidance**

Similar to a verifier, but written to primarily guide the auditor on the intent of an indicator or verifier.

# 4. The New Zealand Context

## 4.1 The Geographic Area Covered by the Standard

This Standard is intended for application to plantation forests throughout New Zealand.

## 4.2 The Standard Development Group (SDG)

The standard was prepared by the Standard Development Group (SDG) in accordance with ***FSC-STD-60-006***. The members are:

| **Chamber** | **Representative** |
|---|---|
| Economic | Colin Maunder (Project Coordinator)<br>Brett Gilmore<br>Sally Strang (Alternate) |
| Environmental | Bill Gilbertson<br>Gordon Jackman<br>Kevin Hackwell (Alternate) |
| Maori | George Asher<br>Tina Porou |
| Social* | Jacob Kajavala<br>Andrew McEwen<br>Hugh Barr<br>Euan Mason (Alternate) |

Gay Pavelka served as facilitator for the SDG

*Due to the diverse interests within the Social Chamber the SDG agreed to 3 members of this chamber on the SDG with the equivalent vote of 2 members.

## 4.3 Key Consultants and Advisors to the SDG

Consultants used in developing the standard are listed in the following table.

| **Consultant** | **Topic** |
|---|---|
| Bill Dyck | 2001 – 2003 NIWG Facilitator |
| Gay Pavelka | SDG Facilitator |
| Geoff Cameron – SGS Qualifor | Forest Testing Audit |
| Jerzy A. Zabkiewicz – Forest Research | 2001 - 2003 Pesticide reduction |

Also in accordance with FSC procedures five expert groups were established to provide recommendations to the SDG on key issues. Each group included a member of the SDG to facilitate progress and feedback. The following table lists members of the expert teams by issue.

| Name of Expert Team | Member | Organisation |
|---|---|---|
| Reserve Contribution | **Sally Strang**<br>Grant Rosoman<br>Bill Gilbertson<br>Colin Maunder<br>Rhys Millar<br>George Asher | **Hancock Forest Management (NZ) Ltd**<br>Greenpeace NZ<br>Royal Forest and Bird Society<br>Timberlands Limited<br>Farm Forestry Association<br>Lake Taupo Forest Trust |
| Chemicals | **Gordon Jackman**<br>Kevin Hackwell<br>Kit Richards<br>John Hura<br>Hugh Barr<br>Euan Mason<br>Colin Dunstan<br>Ron Reid | **Greenpeace NZ**<br>Royal Forest and Bird Society<br>PF Olsen<br>NZ Forest Managers<br>Council of Outdoor Recreation Associations<br>School of Forestry<br>NZ Forest Managers<br>Hancock |
| Conversions – Natural to Plantations | **Bill Gilbertson**<br>Tina Porou<br>Geoff Thorp | **Royal Forest and Bird Society**<br>Ngati Porou / Ngati Whakaue<br>Lake Taupo Forest Trust |
| Conversions – Plantations to Farm | **Jacob Kajavala**<br>Sally Strang<br>Collier Isaacs<br>Kit Richards | **Forest Industries Contractors Association**<br>Hancock Forest Management (NZ) Ltd<br>Landcorp Farming Ltd<br>PF Olsen |
| SLIMF | **Pat Milne**<br>Grant Rosoman<br>Kevin Hackwell<br>Bill Gilbertson<br>Rhys Millar | **Farm Forestry Association**<br>Greenpeace NZ<br>Royal Forest and Bird Society<br>Royal Forest & Bird Society<br>Farm Forestry Association |

Note the bolded person was the Coordinator of the Expert Group

## 4.4 List of Publications Referred to in the Standard

**FSC Publications**

- FSC-GUI-60-004 V1 0 *Template for the structure and content of FSC Forest Stewardship Standards*
- *FSC STD 01 001 V4 0 EN FSC Principles and Criteria*
- FSC-STD-60-006 Procedure for the development of Forest Stewardship Standards
- *FSC STD 20 002 V2 1 EN Structure and Content Forest Stewardship Standards*
- *FSC STD 01 003 V1 0 EN SLIMF Eligibility Criteria*
- FSC STD-40-004
- FSC-GUI-60-100 *Guidance on the interpretation of the FSC Principles and Criteria to take account of scale and intensity*
- *FSC POL 30 401 EN FSC certification and ILO Conventions 2002*
- *FSC GUI 30 001 V2 0 EN FSC Pesticides Policy Guidance 2007*
- *FSC POL 30 001 EN FSC Pesticides Policy 2005*

- *FSC PRO 01 004 V2 1 EN Processing pesticide derogation applications*
- *FSC POL 30 602 EN FSC GMO Policy 2000*
- *FSC ADV 30 602 EN Conversion of plantation to non forest land*
- *FSC ADV 30 901 EN Interpretation of Criterion 9*
- FSC Controlled Wood (FSC-STANDARD-30-010)

**Other**

- New Zealand Forest Accord 1991
- NZS8409:2004 Code of Practice for the Management of Agrichemicals
- Department of Labour's Safety and Health in Forestry Operations Code of Practice and Best Practice Guidelines
- United Nations Conference on Environment and Development 1992
- Wellington Airport Case
- Ecological Regions and Districts of NZ (W.M McEwen)
- The New Zealand Protected Natural Areas Programme, Kelly and Park, 1986
- Principles for Commercial Plantation Forest Management in New Zealand, 1995
- NZ Environmental Code of Practice for Plantation Forestry.
- IUCN Red List of threatened species
- N.Z. Threat Classification system (2005)
- ICOMOS New Zealand Charter, 1993

## 4.5 Acknowledgement of Support

This standard has been developed with the much appreciated financial support of the following:

- NZ Forest Owners Association
- Sustainable Farming Fund

The in-kind contributions from members of the SDG and Expert Teams, while unquantifiable, has been significant and also much appreciated.

The SDG also acknowledge the efforts of the NIWG that developed the 2003 draft used as the starting point for this Standard.

The SDG also acknowledges and appreciates the efforts of the independent facilitator, Gay Pavelka, who was critical to holding the dynamic membership together. In particular the SDG appreciate that Gay endured the two Christchurch earthquake events and their ongoing aftershocks, but still managed to perform her role to the highest of standards in the most trying of circumstances.

# 5. The Standard

## 5.1 Hierarchical Structure

The hierarchical framework implements the basic principles described in the introduction to the FSC Principles and Criteria for Forest Stewardship

The standard is structured as a hierarchy of Principles, Criteria and associated Indicators. As the content, structure and numbering of the hierarchical levels of Principles and Criteria

is already provided by FSC, the national Standard Development Group is responsible for developing the indicators and verifiers.

# Principle 1: Compliance with Laws and FSC Principles

**Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria**

## Criterion 1.1: Forest management shall respect all national & local laws and administrative requirements

**Indicator 1.1.1**
The **forest manager** shall have access to current versions of all relevant national and **local** statutes and regulations. Relevant legislation is listed in Annex 6.5. See http://www.legislation.govt.nz/ for current copies of all legislation.

**Indicator 1.1.2 L**
There shall be a system for ensuring all summaries or reference copies of legislation and regulations are up to date.

**Verifier**
Evidence of documents with up-to-date summary or interpretation of relevant regulations and statutes that are applicable to day to day forest management. This may be a subset of legislation listed in Annex 6.5.

**Guidance**
Compliance with this standard can be achieved by maintaining the capacity to view relevant legislation and a capacity to ensure that the **forest manager** is aware of changes to legislation.

**Indicator 1.1.3**
Relevant statutes and regulations shall be implemented through operational guidelines and procedures.

**Verifiers**
a) There is a system for checking if a **resource consent** is required, obtaining **resource consents**, and communicating **local** authority rules and consent conditions to an operational level.
b) The **forest manager** interprets obligations of district and regional plans, and regional **pest** management strategies and incorporates those into the operational requirements of 1.1.4.
c) There is a system for checking if historic sites are present and applying for Historic Places Authority if necessary.

**Indicator 1.1.4**
Where legal non-compliances are identified corrective actions shall be implemented.

**Verifiers**
a) There is a system for monitoring compliance with performance standards in **local** authority **resource consents** and rules.
b) There is a system for recording visit and correspondence from **local** authority officials and responding to issues raised.
c) There is a system for remedial action in the event of non-compliance.

**Indicator 1.1.5**
The **Forest manager** shall be legally registered in accordance with applicable requirements, and has copies of all the documentation required for such registration.

## Criterion 1.2: All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid

**Indicator 1.2.1**
Verifiable records shall show that the **enterprise** is up-to-date with the payment of all required fees, royalties, taxes and other charges (including any fines).

**Verifier**
a) There is evidence that required payments have been made.

**Indicator 1.2.2**
The **enterprise** shall ensure that the requirements of this Criterion are also met by contractors and others managing forestry operations on the property (for example Council of Department of Labour fines applicable to non-compliance in the FMU, Road User Charges and vehicle registration fees for vehicles used in the FMU)

**Guidance**
Indicator 1.2.2 applies only to fees, taxes, fines, etc that the **enterprise** has a legal right to monitor. For example the enterprise has no legal right to monitor the payment of company tax by a contractor.

## Criterion 1.3: In signatory countries, the provisions of all the binding international agreements such as CITES, ILO conventions, ITTA, and Convention on Biological Diversity, shall be respected

**Guidance Note**
Requirements to meet international agreements have generally been expressed in legislation. However, where requirements are not covered by legislation the Standard Development Group will provide guidance on the adoption and interpretation of relevant international agreements. Interpretations of FSC international documents rest at FSC PSU. The SDG may provide interpretations but must be approved by the FSC PSU.

**Indicator 1.3.1**
Statutory requirements shall be met or exceeded and relevant agreements respected. See Criterion 1.1.

**Indicator 1.3.2**
The **forest manager** shall implement the adoption guidance when it is provided by the Standard Development Group on relevant international agreements.

**Indicator 1.3.3**
The **forest manager** shall understand and where applicable shall comply with requirements of CITES.

**Verifiers**
a) (L) The **forest manager** has access to a list of locally occurring species that are listed by CITES.
b) The **forest manager** has a copy of the appropriate authority for any trade in CITES listed species from the **management unit**.

**Indicator 1.3.4**
There shall be no substantiated evidence of any non compliance by the forest manager with the applicable requirements of any international agreements listed in the New Zealand FSC standard.

## Criterion 1.4: Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.

**Indicator 1.4.1**
The **forest manager** shall identify and document any situations in which the manager's compliance with the law would preclude compliance with any indicator of this standard, or vice versa.

**Indicator 1.4.2**
Any identified conflicts shall be documented.

**Indicator 1.4.3**
Steps shall be taken to resolve conflict and any strategy devised for immediate and long-term compliance with FSC requirements shall be documented.

**Indicator 1.4.4**
Any identified conflicts shall be brought to the attention of the Standard Development Group and/or the **forest manager**s certifying Body.

**Indicator 1.4.5**
In the event of any conflict being identified, the **forest manager** shall consult with the body responsible for interpretation of the FSC standard (i.e. either the certification body or the FSC National network partner), and/or with the relevant authority responsible for interpreting legal requirements, in an attempt to resolve the conflict.

## Criterion 1.5: Forest management areas should be protected from illegal harvesting, settlement and other unauthorized activities

**Indicator 1.5.1**
Unauthorised and illegal activities shall be identified and responses made.

**Verifiers**
a) Documented policies and procedures to protect the forest from illegal activities.
b) With respect to illegal activities, proof that **forest manager**s provide appropriate assistance to the police consistent with legal obligations and the safety of personnel and the public.

## Criterion 1.6: Forest managers (forest managers) shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria

**Indicator 1.6.1**
There shall be a **publicly available** policy endorsed by the most senior management stating commitment to forest management practices consistent with this Standard.

**Indicator 1.6.2**
The area subject to certification is explicitly defined and there shall be measures in place which clearly segregate timber products from the area.

**Indicator 1.6.3 L**

The policy shall be communicated throughout the **organisation** and to contractors. **Indicator 1.6.4 L**
The policy shall be periodically reviewed and updated incorporating relevant directives from FSC and/or the National Initiative.

**Indicator 1.6.5**
The **forest manager** shall fully disclose all **plantation forest** areas over which they have some responsibility and demonstrate a long term commitment to managing all forests in the spirit of this Standard.

**Indicator 1.6.6**
Any of the **plantation forest** areas over which the **forest manager** has some responsibility and are not being certified, shall comply with *FSC partial certification and excision policy (FSC-POL-20-002).*

# Principle 2: Tenure and Use Rights and Responsibilities

**Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.**

## Criterion 2.1: Clear evidence of long-term forest use rights to the land (e.g. land title, customary rights, or lease agreements) shall be demonstrated

**Indicator 2.1.1**
Documents shall be present describing the legal status and name of the **management unit**.

**Verifiers**
Documentation may include:

- Land certificates & title.
- Registered rights such as leases or rights of way.
- Unregistered leases or licenses to occupy.
- Crown Forestry Licences.
- Forestry Rights.
- Crown Leases.
- Give and take boundary agreements.

**Indicator 2.1.2**
Maps shall record important **tenure** / land use information including boundaries and identifiable public access routes.

**Indicator 2.1.3**
The **forest manager** shall have documentation indicating the existence of any Treaty of Waitangi Claims over the land.

**Guidance**
Documents available on-line would meet this indicator.

Auditors should also note that existence of claims may not be made available to the **forest manager** by the Crown or claimant. Where this is the case the **forest manager** cannot be expected to have the relevant documentation.

## Criterion 2.2: Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.

**Indicator 2.2.1**
**Local** communities or other stakeholders, who have recognised **legal or customary access or use rights,** shall be identified.

**Indicator 2.2.2**
The **forest manager** shall make efforts to make stakeholders with recognised use rights aware of current and proposed forest operations that may affect their use rights.

**Indicator 2.2.3**
There shall be evidence that free and informed consent to forest operations affecting recognised use rights has been given by affected parties provided that any withholding of consent is neither vexatious nor frivolous.

**Indicator 2.2.4**
There shall be a process for consulting with registered easement rights holders about planned forest operations that might affect their activities.

**Criterion 2.3: Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.**

**Indicator 2.3.1**
A written record of previous and on-going disputes over **tenure**, access (where controlled by **forest manager**) and **use rights** shall be kept.

**Indicator 2.3.2**
Mechanisms' including sufficient and relevant staff and resources shall be employed to resolve disputes, including legal requirements and internal procedures.

**Indicator 2.3.3**
There shall be a commitment to resolution of on-going disputes where the disputes are not vexatious or frivolous.

# Principle 3: Indigenous Peoples' Rights

**The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected**.

## Criterion 3.1: Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies

**Guidance Note**
This criterion reflects the important right of "**tino rangatiratanga"** contained within the Treaty of Waitangi. The right of **tangata whenua** to maintain ownership and control of their lands and to maintain established legal rights of ownership and management of any forests on their lands shall be protected by appropriate and effective policy and procedure.

**Indicator 3.1.1**
**Forest managers** shall maintain an up to date list of **tängata whenua** or their appointed representatives who have legal rights of ownership and management of lands and/or forests contained within the **management unit**.

**Indicator 3.1.2**
**Forest managers** shall maintain documented evidence of prior and informed, written consent of **tangata whenua** to manage lands and or forests contained within the **management unit**.

**Indicator 3.1.3**
**Forest managers** shall maintain a written record of all previous and on-going disputes relating to the customary/traditional rights of **tangata whenua** affecting the lands under forest management.

**Indicator 3.1.4**
The **forest manager** shall establish and maintain mechanisms to resolve disputes, including the adoption and use of customary and traditional protocols and institutions, legal requirements and internal procedures.

**Verifiers**
- Document (s) identifying disputed issues
- A review of affected area of forest operations
- Document(s) identifying the process for dispute resolution including hui
- Document(s) showing agreed outcomes
- Records of discussions, agreed actions and outcomes and responsibility for implementation of action are available.

**Indicator 3.1.5**
**Forest managers** shall maintain a commitment to implement all agreements and legally verified third party directions to the **dispute resolution**.

**Indicator 3.1.6**
**Forest managers** shall maintain a commitment to resolving on-going disputes with **tangata whenua** in an open, fair and equitable manner where such disputes are deemed not to be vexatious or frivolous.

## Criterion 3.2: Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.

**Guidance Note**
Criterion 3.2 reflects the Treaty of Waitangi right of 'exclusive and undisturbed possession' of **tangata whenua** lands, forests, estates, fisheries and **taonga**.

**Indicator 3.2.1**
The **forest managers** shall not threaten or diminish the resource and **tenure** rights of **tangata whenua**, within and bordering the **management unit**.

**Indicator 3.2.2**
**Forest managers** shall have documentation that identifies the resource and **tenure** rights of **tangata whenua** that apply within or bordering the **management unit**.

**Indicator 3.2.3**
**Forest managers** maintain documentation demonstrating their record of **consultation** with **tangata whenua** to identify resource and **tenure** rights within the **management unit**.

**Verifiers**
a) **Forest managers** shall implement a risk **management plan** outlining the steps taken to protect resource and **tenure** rights of **tangata whenua.**
b) Forest Managers shall demonstrate how potential risks to these rights are assessed, mitigated, avoided and monitored, and how actual adverse impacts have been addressed.

c) Interviews with affected **tangata whenua** demonstrate that they can confirm their satisfaction that their resource and **tenure** rights are being protected and that the risks are being effectively managed and addressed by the **forest manager**.

## Criterion 3.3: Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.

**Indicator 3.3.1**
**Forest manager**s shall establish measures and protocols to enable active **protection** of the customary interests of **tangata whenua** landowners as set out in Indicator 3.2.1

**Verifier**
a) Interviews with **tangata whenua** indicate their satisfaction with **management plan**s and protocols associated with the protection of important sites prescribed in criterion 3.3.

**Indicator 3.3.2**
Sites, including **landscape**s and land related features of special cultural, archaeological, historical, ecological, economic or religious significance to **tangata whenua** shall be identified, described and mapped in **consultation** with **tangata whenua** and related stakeholders.

**Indicator 3.3.3**
**Management plan**s detailing the techniques, processes and protocols for protection, accidental damage or discovery and restoration of damaged sites, **landscape**s and features, outlined in this

indicator, shall be developed in negotiation with **tangata whenua**. These plans shall specify areas of land, required by **tangata whenua**, to be excluded from forest operations.

**Indicator 3.3.4**
Contractors and workers shall be made aware of, and have access to **management plan**s in accordance with protocols agreed by the **tangata whenua** and the **forest manager** so that they can identify such sites and prevent damage.

**Indicator 3.3.5**
Access shall be provided to these sites where required by **tangata whenua**, except where legitimate fire, health and safety limitations or prohibitions exist within the **management unit**.

## Criterion 3.4: Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.

**Indicator 3.4.1**
**Forest manager** shall obtain the free and informed consent of the **tangata whenua** prior to the use, transfer, or application within their forest related management or operational systems of any traditional knowledge associated with any **indigenous** forestry species within the **management unit**.

**Indicator 3.4.2**
Where the **forest manager** directly uses or benefits from such use of traditional knowledge, he (she) shall directly compensate the **tangata whenua**.

**Indicator 3.4.3**
**Forest managers** shall document traditional practices or knowledge that is intended to be or is utilised commercially or is being held by them.

**Indicator 3.4.4**
The forest manager shall arrange for tangata whenua to have right of first refusal to any commercial opportunity arising from the application / use of traditional knowledge and practices within the management unit.

- The Appropriate Intellectual Property agreements are set in place to protect indigenous rights to traditional knowledge and Indigenous Intellectual Property stemming from traditional knowledge.
- That an agreement be in place for commercial use prior to any such use.

**Verifiers**

a) The **forest manager** documents evidence of free, prior and informed consent where traditional knowledge has been used in their management and operations.
b) That **forest managers** have documented evidence of uses of traditional knowledge within their management and operations.
c) **Forest managers** have documented evidence of agreed compensation arrangements for instances where traditional knowledge has been utilised commercially.
d) **Forest managers** maintain a record of compensation payments for the use of traditional knowledge.
e) **Forest managers** consult directly with the **tangata whenua** landowners prior to to utilising their traditional practices, knowledge or intellectual property.

f) A formal agreement exists between the **tangata whenua** and the **forest manager** prior to the sharing, recording and utilisation of traditional information by the **forest managers**.

g) When traditional knowledge is used for commercial gain by the **forest manager** (or any other organisation under an agreement with the **forest manager**), compensation and/or any form of reward is formally agreed with the appropriate **tangata whenua**.

h) Compensation paid does not convey ownership of Intellectual Property or Indigenous Intellectual Property to the **forest manager** or any other third party.

# Principle 4: Community Relations and Worker's Rights

**Forest management operations shall maintain or enhance the long-term social and economic well being of forest workers and local communities.**

## Criterion 4.1: The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services

**Indicator 4.1.1**
The **forest manager** shall ensure people in **local** communities are given equal employment opportunities, and that **local** employment, contracting and training opportunities are promoted.

**Verifier L**
a) Provisions for the following have been made:
- Provisions demonstrate a commitment to hiring and contracting, locally, to the extent feasible in light of **local** capacity and required workplace skills, cost considerations and any legal obligations, relative to the employment of **local** people.
- Operational contracts require a record of the type of training opportunities organised for the **local** and non-**local** workforce.

**Indicator 4.1.2 L**
**Forest manager**s shall contribute to the development of training programmes aimed at enhancing the skills and qualifications of the **local** workforce.

**Verifier**
a) Contributions can be financial or in-kind. The standard can be satisfied if the **forest manager**:
- Contributes financially to forest industry training via membership of NZFOA or NZFFA; or
- Contributes financially towards the **local** training programme; or
- Provides in-kind support by using staff to provide **local** training; or
- Provides in-kind support by providing the **local** training venue, food etc.; or
- Pays contractors while their **local** staff are being trained; or
- Includes a **local** training component in the contractors' rate; or
- Contributes in a similar manner appropriate to the scale of the operation for **local** training
- **Local** training can also be to assist the **local** community to engage in (for example) ecological restoration and protection, ecotourism, cultural activities etc associated with the forest and **management unit**.

**Indicator 4.1.3 L**

The **forest manager** ensures their contractors maintain training records for both **local** and other staff and contractor employees.

**Indicator 4.1.4**
**Forest manager**s shall give preference to **local** vendors of equipment and ancillary services, to the extent feasible in light of **local** capacity, cost considerations and any legal obligations.

## Criterion 4.2: Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families

**Indicator 4.2.1**
**Forest manager**s shall comply with the HSE Act and its associated regulations and the relevant codes of practice and best practice guidelines.

**Indicator 4.2.2**
The **forest manager** shall have in possession or access to (through on-line statutes) the HSE Act

**Indicator 4.2.3**
The **forest manager** operates a health and safety management system that is consistent with the HSE Act, and records health and safety accidents and events, and trends of staff and contractor staff.

**Guidance**
The **forest manager** can satisfy this Indicator if they hold ACC WSMP Secondary or Tertiary certification.

**Indicator 4.2.4**
**Forest managers** and workers shall have a working knowledge of national laws and/or regulations covering health and safety of employees and their families.

**Indicator 4.2.5**
There shall be a written emergency plan in case of serious injury to any forest worker or contractor, and which includes provision for timely evacuation to an appropriately equipped medical facility.

## Criterion 4.3: The rights of the workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labour Organisation (ILO)

**Indicator 4.3.1**
Where the **forest manager** and contractors directly employs labour they shall demonstrate compliance with relevant legislation.

**Guidance**
Relevant legislation includes the Employment Relations Act (2000), the Wages **Protection** Act (1983), the Holidays Act (2003) and the Minimum Wage Act (1983).

**Indicator 4.3.2**
Interested individuals shall be able to form and/or join organisations of their choice (including trade unions) without fear of intimidation or reprisal.

**Indicator 4.3.3**
Requests from Union Representatives seeking information on the work location of their members who are either employed by contractors engaged by the **forest manager** or as their own employees shall be supplied in a timely manner.

**Indicator 4.3.4 L**
Employers who directly employ labour shall establish policy and procedures that include provisions ensuring that:

- The role and function of Unions is facilitated at all times.

- Staff members with the responsibility/delegated authority to liaise/ negotiate with Union(s) are confirmed and identified.
- Where workers are Union members, wage bargaining arrangements shall proceed on the basis of collective bargaining.
- All employees shall be qualified in skills that are relevant to the tasks they are performing or be under training to acquire such skills, in line with relevant industry training organisations standards.
- Issues raised by Unions are treated constructively, objectively and in the spirit of good faith.
- Where workers are Union members, wage bargaining shall proceed on the basis of collective agreement/s.
- Resolution procedures dealing with employment relationship problems shall contain provisions to handle such matters by allowing for both dialogue between staff, unions and management, as a means of resolution procedure, as well as independent third party mediation assistance.

## Criterion 4.4: Management planning and operations shall incorporate the results of evaluations of social impact. Consultation shall be maintained with people and groups (both men and women) directly affected by management operations.

**Indicator 4.4.1**
There shall be documented policies and procedures for assessing the social implications of forest **management plans** (including new afforestation projects), policy changes, and forest operations.

**Indicator 4.4.2.**

The **management plan** for the defined forest area shall contain a section presenting the results of periodic social impact assessments, appropriate to the scale of operations.

**Verifier**
a) The **forest manager** records and responds constructively to community or other stakeholder complaints or requests provided the complaint or request is neither vexatious nor frivolous and acts fairly to all parties.

**Indicator 4.4.3**
Management activities and policies shall be modified, as appropriate, in response to the results of social impact assessment.

**Indicator 4.4.4 S**
The **enterprise** shall demonstrate how it has incorporated the results of its evaluation of social impacts into its **management plan**ning and operations.

**Indicator 4.4.5**
There shall be a database or other record (such as Terraview, an external database) of neighbours and other stakeholders.

**Indicator 4.4.6**
**Forest manager**s shall keep neighbours and members of relevant **local** communities informed as to planned activities on the defined forest area.

**Guidance**
This indicator may be met in several ways, for example through informal interaction with neighbours, general plans available on request and plans available on the internet. For security purposes the location of operations may need to be kept confidential to directly affected stakeholders. Note that

the onus is to keep affected parties directly informed and interested parties informed in a more generic sense.

**Indicator 4.4.7**

The **forest manager** shall identify and document the potential social impacts resulting from its operations, in consultation with the people and groups who are directly affected.

## Criterion 4.5: Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.

**Indicator 4.5.1**

Procedures for resolving grievances involving claimed loss or damage to property, health and/or rights, caused by forest operations shall be documented.

**Indicator 4.5.2**

Where there are grievances the **dispute resolution** process shall be followed in the first instance.

**Indicator 4.5.3**
Measures shall be taken to avoid, or lessen the risk of similar loss or damage occurring on subsequent occasions.

**Indicator 4.5.4**
The **forest manager** shall comply with the provisions of NZ law to offer remedial action or fair compensation in the case of any loss or damage caused by the **forest enterprise** and affecting the legal or **customary rights**, property, resources or livelihoods of local peoples.

# Principle 5: Benefits from the Forest

**Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.**

## Criterion 5.1: Forest management should strive towards economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.

**Indicator 5.1.1**
The costs and benefits of environmental and social effects shall be identified and shall be incorporated into a forest **management plan** and budget.

**Verifier**
ɑ) The costs and benefits from non-wood products and environmental services from the forest have been recognised in the **management plan and budget**.

**Indicator 5.1.2**
Within the constraints of safety, environmental protection, economic sustainability and restrictions on land **tenure** agreements and **kaitiakitanga practices** agreed with Tangata Whenua, the **forest manager** shall demonstrate types and levels of recreational access.

**Verifiers**
a) For Large enterprises a public access policy or plan which has been developed and is periodically reviewed in **consultation** with recreational and community representative groups and affected stakeholders.
b) The **forest manager** operates a permit system or other access management method that accurately records forest access usage.
c) Social and cultural benefits include such activities as traditional **cultural harvest**ing, provided the activity is legally permissible and consistent with Mäori traditional practices.
d) Known sportfish and game bird habitats within the certified forest area are documented.
e) Areas of **cultural harvest** and significant sites are documented, or their general area if these sites are highly culturally sensitive.

**Indicator 5.1.3**
Access, including recreational access, through forestry areas to adjacent land shall be in **consultation** with the affected landowners.

**Indicator 5.1.4**
Access through forestry areas shall not be permitted where it will lead to adverse effects for other values including but not limited to **tino rangatiratanga**.

**Indicator 5.1.5 L**
There shall be a financial plan which estimates the cost and expected revenues from implementing the forest **management plan.**

**Verifiers**
a) A financial plan (preferably for at least a five year period) and that can demonstrate economic viability.

b) A budget showing the expected costs and revenues for the **forest manager** for at least the current year.
c) The budget includes all costs for significant activities and investments.
d) The cost and revenue estimates are reasonable.

**Indicator 5.1.6 S**
There shall be a budget showing the expected costs and revenues for the **forest manager** for at least the current financial year.

**Indicator 5.1.7**
If the budget shows a deficit for the year, the **forest manager** shall demonstrate how the shortfall will be covered whilst ensuring that the **management plan** is implemented in the long term.

## Criterion 5.2: Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.

**Indicator 5.2.1**
An annual statement of all products from the **management unit** shall be available. The statement shall include non-timber products, where these can be practically quantified.

**Indicator 5.2.2**
**Local** processors shall be provided access to forest products available from the **management unit** unless there is a justifiable reason for not doing so.

**Indicator 5.2.3**
Non-**local** processing is acceptable following consideration of financial viability, environmental effects, including transport, community viability and cohesiveness, and efficient use of products from the **management unit**.

## Criterion 5.3: Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.

**Indicator 5.3.1**
Strategic and tactical/operational harvest planning and harvest operations shall be carried out in accordance with national best practice.

**Guidance**
Guidance is in documents such as New Zealand Environmental Code of Practice for Plantation Forestry.

**Indicator 5.3.2**
Harvesting operations shall minimise avoidable waste and residual stand damage, while maximising value recovery from the coupe.

**Indicator 5.3.3**
In the case of on-site processing facilities (e.g. saw milling) the conversion rate of timber to processed product shall be in line with best practice for the type of equipment in use.

## Criterion 5.4: Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.

**Indicator 5.4.1 L**
An investigation, in **consultation** with the **local** community, into a range of possible timber and non timber forest products shall be carried out including their potential to strengthen and diversify the **local** economy.

**Indicator 5.4.2 L**
Use of timber and non-timber products from production areas shall be supported when these are operationally acceptable and compliant with any land **tenure** agreements and other contractual obligations and have been assessed for their environmental, social and cultural effects on both the production areas and the surrounding reserve areas.

**Indicator 5.4.3**
The forest shall be managed for both timber and identified non-timber products as assessed to be supported under Indicator 5.4.2.

## Criterion 5.5: Forest management operations shall recognize, maintain and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.

**Indicator 5.5.1**
The **forest manager** shall identify and document the range of forest services and resources.

**Indicator 5.5.2 L**
The **management plan** developed with the **local** community, **tangata whenua** and affected parties (or equivalent documentation) shall specify appropriate measures to maintain and/or enhance the value of each identified forest service or resource.

**Indicator 5.5.3**
The **management plan** (or equivalent documentation) shall specify appropriate measures to maintain and/or enhance the value of each identified forest service or resource.

## Criterion 5.6: The rate of harvest of forest products shall not exceed levels which can be permanently sustained.

**Indicator 5.6.1**
An annual statement of total wood volumes harvested from the **management unit** shall be available.

**Indicator 5.6.2**
The **enterprise** shall have a clear methodology to determine allowable cut and the sustainable harvest levels for the **management unit** have been calculated using the most up-to-date information, and do not exceed the levels that can be sustained.

**Indicator 5.6.3 L**
The allowable cut shall not jeopardise the forest's productive potential to maintain it's economic, environmental or social services in the medium to long term.

**Indicator 5.6.4 L**
Data on growth, regeneration and volumes harvested and/or thinned shall be reported regularly and analysed in comparison with predicted volumes and growth data.

# Principle 6: Environmental Impact

**Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.**

**Criterion 6.1: Assessment of environmental impacts shall be completed - appropriate to the scale, intensity of forest management and the uniqueness of the affected resources - and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site disturbing operations.**

**Indicator 6.1.1**
The **forest manager** shall systematically identify and assess the potential site specific environmental impacts (including on-site processing facilities) prior to commencement of all site disturbing activities carried out within the **management unit appropriate to the scale and intensity** of forest **management unit**.

**Indicator 6.1.2**
This assessment process shall include consideration at a **landscape level** taking into account interaction with adjoining land, nearby habitats and downstream impacts.

**Guidance**
Reference to the NZ Environmental Code of Practice for Plantation Forestry will assist this assessment process. The assessment should include consideration of the potential for the following:

- Soil erosion.
- Water quality and hydrological impacts.
- Compaction and changes to soil productivity.
- Changes to invasive **exotic** flora or fauna abundance.
- Potential impacts on any areas identified as having High Conservation Value.
- Impacts to poorly represented, threatened or endangered species.
- **Pesticide** or fertiliser pollution (by runoff, spray drift or spillage).
- Visual changes to significant **landscape**s identified in Regional or District Plans, or very prominent **landscape**s ref 10.2.12.
- Community and recreation impacts.
- Damage to riparian/ stream buffer strips.

**Indicator 6.1.3**
The **management plans** and other relevant policies and procedures of the **enterprise shall** identify the actions to be taken to mitigate or reduce the environmental impacts identified as a result of the assessments.

**Indicator 6.1.4**
Site specific assessments of the potential environmental impacts of forest operations shall be carried out prior to commencement of the activity on site, in a manner appropriate to the scale of the operations and the sensitivity of the site.

**Indicator 6.1.5**
The assessment process shall identify the environmental values (High Conservation Values) present, potential impacts on those values by the proposed forest operations, and site specific requirements to manage risks and potential impacts.

**Indicator 6.1.6**
The outcome of this process shall be documented in a site specific work prescription or harvest plan.

**Indicator 6.1.7**
A record shall be kept to identify corrective actions where non compliance with prescriptions occurs.

**Indicator 6.1.8**
An evaluation of the **management unit** shall be progressively undertaken incorporating a **coarse** and **fine level** assessment, to identify **ecosystem** values present and priorities for management.

**Indicator 6.1.9 L**
A **coarse** assessment of existing data shall be compiled to enable prioritising areas within the **management unit** for protection and management. The coarse assessment incorporates a desk top assessment of existing information to identify:

- broad vegetation types and fauna present within existing reserves.
- distribution and movement patterns of known **rare, threatened or endangered species.**
- any known or likely threats to the ecological values present.
- the relative rarity of **ecosystem** types.

**Guidance**
Proportion and percentage information is available through Nature Heritage Publications for many regions.

**Indicator 6.1.10 L**
Comprehensive **fine level** evaluations shall be progressively undertaken appropriate to scale for known **poorly represented ecosystems** where harvesting operations adjoining the area are scheduled to occur within the next 5 years.

**Guidance**
The purpose of this evaluation is to determine viability and establish specific management requirements of **poorly represented areas**.

**Indicator 6.1.11 S**
A **coarse** evaluation of the potential for expansion of natural areas shall be completed, guided by the **principles for protecting and expanding natural areas.** Refer to glossary **'Principles'.**

**Indicator 6.1.12**
The **enterprise** shall complete and document an assessment of the environmental impacts of any processing facilities within the FMU under assessment

**Indicator 6.1.13**
There shall be a procedure to review and evaluate potential environmental impacts and to record the specific actions taken to mitigate the impacts identified, on a site-by-site basis, prior to the commencement of site-disturbing operations.

## Criterion 6.2: Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.

**Indicator 6.2.1**
Generic policy and **management plan**s for the **maintenance** of populations of rare, threatened and endangered species within the **management unit** shall be prepared and progressively updated in **consultation** with competent experts.

**Guidance**
The NZFOA with advice from ecologists has prepared national guidelines on the handling of rare and threatened species in **management unit** forests. (www.rarespecies.nzfoa.org.nz).

**Indicator 6.2.2**
The **coarse** level data from 6.1.2 shall be updated at least every 5 years to identify the known or likely presence and distribution of rare, threatened and endangered species within the **management unit**.

**Indicator 6.2.3**
**Indigenous** habitat supporting **rare, threatened or endangered species** and identified as being significant to their life cycle shall be identified and protected in management planning.

**Indicator 6.2.4**
The presence of populations of **rare, threatened or endangered species** or areas identified as being significant to their life cycle in production areas of the **management unit** shall be progressively identified before harvest in **management plan**s and site specific work prescriptions and mapped as either 'known presence' or 'reasonable expectation of finding'.

**Indicator 6.2.5**
**Indigenous** habitats (excluding **plantation forest** understorey) which are significant to the life cycle of **rare, threatened or endangered species** shall be progressively identified and protected as designated **threatened species** habitat **reserve area**s, in accordance with the following:

i. The indicators under Criterion 10.5.
ii. Documented populations of threatened birds and or bats where the information could be gathered as a desk top exercise to be completed by first certification.
iii. Areas adjoining areas planned for harvest are completed before harvest.
iv. The network of threatened species protected reserves is reviewed and revised as new information is gathered but at least every 5 years.

**Indicator 6.2.6**
In **reserve area**s protected in 6.2.5 management actions to ensure **maintenance**, including **weeds** and **pest** control plans, shall be developed in **management plan**s and implemented as follows:

a) **L -** Within one year of identification and protection, **management plan**s to ensure the **maintenance** or **rare, threatened or endangered species** and their habitat are implemented in priority areas. Priority areas are areas that are significant to the life cycle of nationally or internationally **threatened species** or adjacent to areas being harvested.
b) **L -** Within three years of identification and protection, **management plan**s to ensure the **maintenance** of **rare, threatened or endangered species** and their habitat are implemented over all reserve areas designated as requiring management of those species.

c) **S -** Specific **weed** and **pest** management activities designed to protect the associated **biodiversity** within reserve areas supporting **rare, threatened or endangered species** shall be defined and implemented within 2 years of certification.

**Indicator 6.2.7**
Within 5 years (or sooner if required by the indicators under Criterion 10.5) existing habitat within reserve areas under 6.2.6(b) shall be assessed for, and where appropriate, **active restoration** and /or expansion undertaken. **Active restoration** qualifies as **equivalent ecological effort** as per the indicators under Criterion 10.5.

**Verifiers**
a) Within 5 years (or sooner if required by the indicators under Criterion 10.5) identification and protection of threatened species reserve areas, an evaluation of the benefit of **active restoration** shall be carried out. Where **active restoration** has been identified as providing benefit per 6.2.6(a) then that restoration is undertaken and documented.
b) An evaluation of the benefit of expanding the area of a reserve to secure the viability of populations of **rare, threatened or endangered species**, has been carried out at harvest of the adjacent plantation.

**Guidance**
The primary criteria being applied to the evaluation would be whether the **active restoration** would significantly increase the survival of the threatened species for which the habitat has been protected. The evaluation shall be guided by the **principles of protecting and expanding natural areas.**

**Indicator 6.2.8**
Where expansion has been identified as providing benefit per 6.2.7b then that expansion is undertaken and documented.

**Indicator 6.2.9**
Where other activities including recreation and hunting are likely to occur in threatened species reserves they shall only be permitted if the primary management objective is not compromised.

**Indicator 6.2.10**
Assessment of the effect of activities that occur in threatened species reserve areas other than the primary management objective shall be progressively carried out in **management plan**s.

**Indicator 6.2.11**
Where other activities are identified as likely to be compromising the primary objective of a reserve then actions are implemented to protect the reserve.

**Verifier**
a) This may include education programmes for reserve users, not permitting certain activities or preventing access.

**Indicator 6.2.12**
**Rare, threatened or endangered species** known to be present, or discovered in **production areas** shall be protected and managed.

**Indicator 6.2.13**
**Management plan**s and work prescriptions for areas due for harvest or silviculture shall detail steps to be taken to protect **rare, threatened or endangered species** in production areas in accordance with 6.2.1.

**Indicator 6.2.14**
Employees and contractors shall be progressively trained in recognition of rare, threatened and endangered species and are aware of contingency planning to enable the protection of located species.

**Indicator 6.2.15**
Training shall be provided for employees/contractors to enable them to recognise and know what steps to take with **rare, threatened or endangered species**.

**Indicator 6.2.16**
Employees and contractors shall be encouraged to report the presence of **rare, threatened or endangered species**.

### Criterion 6.3: Ecological functions and values shall be maintained intact, enhanced, or restored, including:

- **Forest regeneration and succession.**
- **Genetic, species and ecosystem diversity.**
- **Natural cycles that affect the productivity of the forest ecosystem**

**Indicator 6.3.1**
Actions to minimise topsoil loss during harvest and replanting shall be implemented.

**Indicator 6.3.2**
Safeguards shall be put in place to minimise adverse effects on water quality and aquatic ecology.

**Indicator 6.3.3**
The **forest manager** shall comply with any **resource consent.**

**Indicator 6.3.4**
Where no **resource consent** is required for those matters set out in Indicators 6.3.1 and 6.3.2 the **forest manager** shall comply with the "NZ Environmental Code of Practice for Plantation Forestry" or the Indicators 6.3.5 to 6.3.9.

**Indicator 6.3.5**
All vegetation felled within the **riparian** zone shall be felled away from the waterbody, except edge vegetation or vegetation leaning over a waterbody, which if necessary may be felled in accordance with safety practices.

**Indicator 6.3.6**
Where vegetation is cleared within a designated **riparian** zone (refer10.2.8) regeneration of suitable vegetation shall be encouraged.

**Indicator 6.3.7**
All practicable steps shall be taken to avoid dragging logs or trees through the bed of a flowing river, lake or wetland or the sea.

**Indicator 6.3.8**
No storage or mixing of fuels, oils, **chemicals** or similar substances shall be undertaken in areas where a deliberate or inadvertent discharge could enter any water-body.

**Indicator 6.3.9**
All steps shall be taken to ensure disturbed vegetation, soil or debris shall be deposited or contained to prevent (with the exception of major storm events) the:

- diversion, damming or blockage of any river or stream.
- passage of fish being impeded.
- destruction of any habitat in a waterbody or coastal water.
- flooding or erosion.
- downstream property damage.

**Indicator 6.3.10**
**Weed** and **pest** control plans as dictated in 6.2.5, 6.4.2, 10.2.10, shall be progressively implemented to support the **maintenance** of ecological functions including **ecosystem** regeneration and species diversity.

## Criterion 6.4: Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

**Indicator 6.4.1**
To maintain **biodiversity**, **forest manager**s shall recognise the long-term goal of establishing a representative network of **reserve area**s of sufficient size to protect natural **biodiversity** according to **Tikanga** and scientific evidence.

**Indicator 6.4.2**
**Forest manager**s shall progressively identify and protect a range of representative **reserve area**s. These can be any of the following:

a) Representative **indigenous** areas including non forested areas and wetlands.
b) **Poorly represented** or **very poorly represented ecosystems** (a subset of (a)).
c) **Indigenous** habitat for rare, endangered or **threatened species** (covered in 6.2).
d) **Indigenous riparian** zones (covered in 10.2.1 to 10.2.10).
e) **Indigenous wildlife corridor**s (covered in 10.2.11).

The following timeframe should be followed:
The network of representative **indigenous** areas within the **management unit** are progressively identified, mapped and recorded on **management plan**s within the following time frames.

a) All **indigenous ecosystem**s shall be progressively identified and protected as **reserve area**s within 5 years of first certification. This includes:
    i. **Indigenous** forest remnants over 5 ha.
    ii. any other natural **ecosystem** areas over 1ha.
    iii. any other vegetation meeting the definitions for **protection** under the NZ Forest Accord
b) **Indigenous ecosystem**s within the **management unit** that border areas to be harvested in the first 5 years shall be identified and protected.

**Indicator 6.4.3**
The **forest manager** shall assess and implement priorities for reserve management.

**Guidance**
Consider:

(i) Need to maintain the inherent **biodiversity** or the reserve.
(ii) Rarity of the **ecosystem** or species present.
(ii) Statement of national priorities for protecting rare and threatened native **biodiversity** on Private Land.

(iv) Principles for protecting or expanding natural areas. (see glossary 'Principles').

**Indicator 6.4.4**
Priorities for reserve management shall be assessed in accordance with the indicators related to the verification of hierarchical prioritisation under Criterion 10.5.

**Indicator 6.4.5**
Based on assessed priorities, **maintenance** actions, including **plant and animal pest control,** shall progressively be undertaken to the assessed level within each reserve.

**Indicator 6.4.6**
Based on assessed priorities **active restoration** shall be implemented within **reserve areas** where appropriate.

**Guidance**
The primary criteria being whether the **active restoration** would significantly increase the survival of a **poorly represented ecosystem** or **threatened species** within a reserved area. **Active restoration** qualifies as **equivalent ecological effort** as per the indicators under Criterion 10.5.

**Indicator 6.4.7**
Based on assessed priorities expansion shall be undertaken at harvest times.

**Indicator 6.4.8**
**Reserve area**s protected under 6.4.1 that fulfil other protection objectives such as, special physical feature protection, cultural and amenity sites, stabilisation of unstable terrain or visual management zones shall have these purposes recorded.

**Indicator 6.4.9**
Where there is the potential for conflict between the protection of **biodiversity** and other purposes this shall be set out in **management plan**s.

**Indicator 6.4.10**
Low impact use of **reserve area**s, such as **cultural harvest**s and accessing of **waahi tapu**, backcountry recreation, eco-tourism, hunting, trapping or fishing shall be recorded in **management plan**s with appropriate management actions.

**Verifier**
a) Other uses of reserves are documented including any extra management actions that are necessary to maintain the integrity of the **ecosystem**. This may include education programs or restrictions of access. Where access cannot be restricted to achieve a goal this is documented.

**Indicator 6.4.11**
Road building and tracking shall be prohibited in **reserve area**s, except where these activities are part of a documented habitat **restoration** plan designed to meet the objectives of the **reserve area**, or where it can be demonstrated that this is the best environmental solution to an access issue.

**Verifier**
a) Roads and tracks within **reserve area**s are documented in **management plan**s with their purpose and justification.

**Criterion 6.5: Written guidelines shall be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.**

**Indicator 6.5.1**
Forest, environment and/or harvest **management plan**s and **Decision Support Systems appropriate to the scale and intensity** of operation shall be progressively prepared prior to the commencement of works to identify.

- The nature of the operation.
- Potential impacts.
- High risk areas.
- Methods to avoid remedy and mitigate impacts.

**Verifiers**
ɑ) Indicators 6.5.1, 6.5.2 and 6.5.3 can be met if a resource consent for soil disturbance and/or vegetation removal has been obtained or the operation complies with the permitted activity requirements of Regional and District Plans and the council checks compliance to its satisfaction.

**Indicator 6.5.2**
In high risk areas the **forest manager** operates a **Decision Support System** to guide forest management.

**Indicator 6.5.3**
The **forest manager** shall have written guidelines sufficient to:

6.5.1.1 Control erosion;
6.5.1.2 Minimise forest damage during harvesting, road construction, and other mechanic disturbances;
6.5.1.3 Protect water resources both within and outside the **management unit**.

**Indicator 6.5.4**
The guidelines shall include, at a minimum specific provisions to protect water courses by specifying wetland, water source and streamside protection zones in which harvesting and other disturbance is prohibited and/or minimised".

**Criterion 6.6: Management systems shall promote the development and adoption of environmentally-friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organisation Type 1A and 1B chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.**

**Indicator 6.6.1**
**Forest manager**s shall demonstrate a commitment to the goal of avoidance and minimisation of chemical **pesticide** use and the promotion of environmentally optimal methods of **pest** management.

**Verifiers**
ɑ) **Forest manager**s participate in research to investigate means to avoid and reduce the volume and/or adverse effect of chemical usage.

b) **Forest manager**s work with the National Pest Management Group, once established, to meet their obligations under 6.6.

**Indicator 6.6.2**
Methods of **pest** management shall be undertaken in accordance with 10.7.1.

**Indicator 6.6.3**
**Forest manager**s shall not use the **chemicals** listed in Annex 6.1, or any other chemical subsequently listed as hazardous by FSC, within the **management unit**.

**Indicator 6.6.4**
**Chemicals** listed in Annex 6.1 may be used where either a derogation has been obtained from the FSC International Board or in the case of environmental and/or national, regional or local emergency (such as infestations of plant and animal including insect, **pest**s, fungal diseases, or dramatic changes in vegetation composition which threaten ecological stability or economic viability) where it cannot feasibly be controlled by other means.

**Guidance**
In these cases, the use of **chemicals** may be required by law, and prohibitions may be temporarily suspended, except for **pesticide**s with high persistence, strong biomagnification or carcinogenicity.

**Verifier**
a) Demonstrate by means of records of chemical **pesticide** use and/or contractual arrangements with spraying contractors.

**Indicator 6.6.5**
Use of those chemical **pesticide** formulations not specified in Annex 6.1 shall be permissible within the **management unit** subject to compliance with Indicators 6.6.11 to 6.6.13.

**Indicator 6.6.6**
There shall be records of chemical **pesticide** formulations and volume used.

**Indicator 6.6.7**
Each of the chemical **pesticide** formulations used shall be justified for use based upon a documented comparative analysis of alternative chemical and non-chemical means of achieving the required result.

**Indicator 6.6.8**
The **forest manager**'s avoidance or minimising of chemical **pesticide** use shall be demonstrated by a documented yearly review of a **forest manager'**s chemical use to ensure compliance with any formally notified revision of Annex 6.1 by the **National Pest Management Group**.

**Indicator 6.6.9**
The use of reduced chemical and non-chemical methods shall be encouraged.

**Verifier**
a) Demonstrate participation in research/trials related to reduce chemical and non-chemical **pest** management. This can include but is not restricted to participation in research and investigations initiated according to priorities established by the **National Pest Management Group**.

**Indicator 6.6.10**
There shall be compliance, including documentation where required, with *NZ8409:2004 Management of Agrichemicals* (or updates).

**Indicator 6.6.11**
There shall be compliance with **local** authority and other regulatory authority requirements in relation to application.

**Indicator 6.6.12**
Relevant contracts (e.g. chemical application) shall contain provisions covering the use of **chemicals**, in accordance with *NZS8409:2004 Code of Practice for the Management of Agrichemicals* (or updates).

**Indictor 6.6.13**
Managers, employees and contractors shall understand relevant requirements in relation to the use of **chemicals**.

**Indicator 6.6.14**
There shall be emergency procedures for clean up following chemical spillages.

**Indicator 6.6.15**
GrowSafe or equivalent NZQA Unit Standard certificates for applicators and other any other required certification shall be current.

**Indicator 6.6.16**
The **enterprise** shall monitor the health of workers who have worked with **pesticides** in order to identify and investigate potential ill-effects resulting from **pesticide** exposure.

## Criterion 6.7: Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.

**Indicator 6.7.1**
The **forest manager** shall comply, with *NZ8409:2004 Management of Agrichemicals* (or updates).

**Indicator 6.7.2**
There shall be documentary evidence of a request to chemical suppliers and/or applicators requiring in descending order of preference that agri-chemical containers be re-used, recycled or triple rinsed prior to disposal to an approved facility.

**Indicator 6.7.3**
Where re-use or alternatively recycling is not occurring, the reason/s for the current practice shall be progressively documented.

**Indicator 6.7.4**
A procedure or contractual obligation for the recovery and recycling or appropriate disposal of used hydro-carbons shall be produced.

**Indicator 6.7.5**
Documentary evidence of contractual obligations and/or procedures for the training of staff in chemical spill response shall be available. The contractual obligation or procedure shall detail:

- Siting of chemical **pesticide** storage in a manner facilitating recovery in the event of a spill.
- Materials and equipment required on site in the event of a spill.
- Procedures for containment and recovery of spilled chemical **pesticide**s.
- Safe storage, transport and eventual recycling/disposal of recovered chemical **pesticide**.

- Those requiring notification in the event of a spill and means by which they may be contacted.

**Indicator 6.7.6**
The **enterprise** shall keep an up to date list identifying the off-site location(s) for the disposal of all its **chemicals**, containers, liquid and solid non-organic wastes (including fuel and oil).

**Indicator 6.7.7**
There shall be no evidence that the **enterprise**'s waste products are disposed of other than at the listed sites, and in accordance with environmentally safe methods and applicable legal requirements.

### Criterion 6.8: Use of biological control agents shall be documented, minimized, monitored and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.

**Indicator 6.8.1**
Use of **biological control agents** shall be restricted to those approved for use and release under the Hazardous Substances & New Organisms Act. Any use or release shall be in strict accordance with the conditions placed on such use or release by the Environmental Risk Management Authority.

**Indicator 6.8.2**
If **biological control agents** are used, comprehensive records of use shall be maintained by the **forest manager.**

**Indicator 6.8.3**
The impacts of **biological control agent** use shall be closely monitored.

**Indicator 6.8.4**
Field use of **genetically modified organisms** by the **forest manager** shall be prohibited.

### Criterion 6.9: The use of exotic species shall be controlled and actively monitored to avoid adverse ecological impacts.

**Indicator 6.9.1**
**Forest manager**s shall comply with any applicable regional **pest** management strategy including where this identifies a wilding species as a **pest.**

**Indicator 6.9.2**
**Forest manager**s shall have in place a **Wilding Prevention Decision Support System.**

**Indicator 6.9.3**
Prior to planting of **exotic**s **Forest Managers** shall use the system in 6.9.2 to assess the risk of wilding spread.

**Indicator 6.9.4**
Where the risk is high the **forest manager** will not plant without implementing ongoing control procedures.

**Indicator 6.9.5**
In the absence of a species being identified in the regional **pest** management strategy, the **forest manager** shall remove '**wildings**' in adjoining properties before seed production where:

- the adjoining property owner is agreeable to any **wilding** control activities required on his or her land, and
- **wildings** are clearly identified as the progeny of species planted within the plantation area; and
- **wilding** spread has occurred from plantations after the Standard becomes operative or from first certification.

**Indicator 6.9.6**
The **enterprise** shall monitor and/or carry out research to evaluate the potential invasiveness and/or other adverse ecological impacts of the species in the local area.

## Criterion 6.10: Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion:

- **Entails a very limited portion of the forest; and**
- **Does not occur on high conservation value forest areas; and**
- **Will enable clear, substantial, additional, secure, long term conservation benefits across the forest.**

**Guidance Note:**
In the New Zealand context "forests" as above have been taken to include other Naturally Occurring Vegetation.

**Indicator 6.10.1**
a) Conversion of the following areas to **plantation forest**ry shall not be permitted:

- Any area of 5 hectares or greater which has an actual or emerging predominance of naturally occurring **indigenous tree species** of any height. For the purposes of this clause an **indigenous tree species** is defined as any woody plant which ultimately forms part of the canopy of a naturally occurring forest or any **indigenous tree species** that attains a diameter at breast height of 30cm or greater.
- Any natural **indigenous** forest vegetation, including riparian of between 1 and 5 hectares in area with an average canopy height of at least 6 m which is practical to protect. This recognises that in some instances some small pockets of **native** vegetation within a **plantation forest** management area cannot practically be protected from disturbance. However, viable stands will be excluded from clearance and every reasonable effort made to ensure such areas are not damaged in subsequent forestry operations.
- Any vegetation recommended for **protection** in a survey report in the **Protected Natural Areas** Programme or classified as a Site of Special Wildlife Interest (SSWI) in a published report of the former Wildlife Service.
- Significant **Natural Areas** (Areas recognised as significant **indigenous** vegetation or significant habitats of **indigenous** fauna) as defined in an operative District Plan under the Resource Management Act 1991.
- **Indigenous** habitat of **rare, threatened or endangered species**.
- Geopreservation Sites as listed in the Geopreservation inventory.
- Wetlands (as defined in the Resource Management Act 1991).
- Dunelands where the primary vegetation is **indigenous**.
- Geothermal areas where there are **indigenous** plant communities adapted to geothermal conditions.

**Indicator 6.10.2**

The following lands shall not be considered for conversion to **plantation forest** unless **consultation** is undertaken with interested parties to the National Initiative. Where a **resource consent** is required under the Resource Management Act **consultation** with the National Initiative can be undertaken by that process.

- High Country tussock scrublands or herbfields as defined in MfE's LENZ publication and repeated in Annex 6.7.
- Coastal scrub and coastal herbfields with an **indigenous** plant content of greater than 30% within the area being considered.

**Guidance**

The conditions in Indicators 6.10.1 and 6.10.2 for conversion in this indicator shall be considered with the requirements set in this criterion 6.10. That is

- Entails a very limited portion of the forest; and
- Does not occur on high conservation value forest areas; and
  Will enable clear, substantial, additional, secure, long term conservation benefits across the forest.

# Principle 7: Management Plan

**A management plan - appropriate to the scale and intensity of the operations - shall be written, implemented, and kept up to date. The long term objectives of management, and the means of achieving them, shall be clearly stated.**

## Criterion 7.1: The management plan and supporting documents shall provide:

a. **Management objectives.**
b. **Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions, and a profile of adjacent lands.**
c. **Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories.**
d. **Rationale for rate of annual harvest and species selection.**
e. **Provisions for monitoring of forest growth and dynamics.**
f. **Environmental safeguards based on environmental assessments.**
g. **Plans for the identification and protection of rare threatened and endangered species.**
h. **Maps describing the forest resource base including protected areas, planned management activities and land ownership.**
i. **Description and justification of harvesting techniques and equipment to be used**

**Indicator 7.1.1**
There shall be a **management plan** (or overview linking different planning activities).

**Indicator 7.1.2**
Planning includes short (operational), medium (tactical) and long (strategic) term plans, appropriate to the scale of the **management unit**. These plans may be in the form of computer based **Decision Support Systems**.

**Indicator 7.1.3 S**
The requirement for documented planning in small-scale operations will be decided by the scale, duration and intensity of **the operation.**

**Guidance**
The size and content of the management plan is dependent on the size of the forest and the intensity of the forest management and/or operation undertaken. At the smallest size and scale, this may consist of a map and 2-3 pages of writing.

**Indicator 7.1.4**
At a minimum the **management plan** shall include:
a) the objectives of forest management.
b) a description of the forest resource.
c) how the objectives will be met, harvesting methods and silviculture.
d) harvest plans and rationale for rate of harvest and species selection.
e) planned management activities in the short term (e.g. first five years).
f ) environmental impacts of the plan.
g) conservation of **rare and threatened species.**
h) **pest** and **weed** control.
h) maps of the forest, showing protected areas, planned management and land ownership.

**Guidance**
Group certificate holders are encouraged to produce auditable templates and processes for **SLIMF** Group Scheme **enterprise**s. **SLIMF enterprise**s can use these to self-evaluate compliance prior to the arrival of the certification body auditor.

**Indicator 7.1.5**
Forest resources, environmental limitations, land use and ownership status, socio-economic conditions, and adjacent lands (see also Criterion 4.4 and 5.5) shall be described.

**Indicator 7.1.6**
A rationale for the rate of harvest and species selection shall be provided. (see also Criterion 5.6)

**Indicator 7.1.7**
Provisions for monitoring forest growth and dynamics shall be described. (see also Criterion 8.2)

**Indicator 7.1.8**
Environmental safeguards identified in 6.1, 6.3 and 9.3 shall be described.

**Indicator 7.1.9**
There shall be **management plan**(s) for the identification and **protection** of rare, threatened and endangered species consistent with the requirements of 6.2, 6.3, 6.4 and 9.3.

**Indicator 7.1.10**
There shall be maps showing the natural forest and plantation resource base including; **ecosystem** types, areas with a High Conservation Value forest resource base including **reserve area**s, planned management activities and land ownership.

**Indicator 7.1.11**
There shall be plans for all harvest settings containing sufficient detail (including appropriate harvest system configurations), related to the scale, risk and level of operational difficulty, so that environmental and safety risks are identified and addressed. See also Indicator 6.1.1.

**Indicator 7.1.12**
There shall be evidence that the plan is being implemented. Where there is any significant deviation this is adequately justified, documented and the plan amended.

**Indicator 7.1.13**
The **management plan** or supporting documents shall include a description of the silvicultural regimes based on information gathered through resource inventories. (see also Criteria 5.6, 6.3, 8.1, 8.2).

**Indicator 7.1.14**
The objectives of management shall include, inter alia, conservation or **restoration** of **native** forest within the **management unit.** (see also Criteria 5.5, 6.2).

**Indicator 7.1.15**
The **management plan** or supporting documents shall include and describe the **decision support systems** used to comply with this standard.

## Criterion 7.2: The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances .

**Indicator 7.2.1 L**
Staff members with responsibility for the overall compilation and updating of the **management plan** shall be identified.

**Indicator 7.2.2**
There shall be procedures for incorporation of monitoring data into the management planning process.

**Indicator 7.2.3 L**
New scientific and technical developments shall be evaluated and incorporated into revised plans

**Verifier**
a) Compliance can be achieved through participation in collaborative research, including implementation of relevant recommendations from the research.

**Indicator 7.2.4**
There shall be evidence of plan revisions in response to changing environmental, social and economic considerations where these exist.

**Indicator 7.2.5**
There shall be a timetable for the periodic revision of the **management plan** and there is evidence of plan revision consistent with the timetable.

## Criterion 7.3: Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan.

**Indicator 7.3.1**
Staff and forest workers at all levels shall have adequate training (including the health and safety issues and environmental aspects) to ensure the **management plan** is implemented.

**Indicator 7.3.2**
There shall be evidence that the effectiveness of the training has been assessed and reviewed.

**Indicator 7.3.3**
Activities shall be supervised and monitored sufficiently to ensure that standards and procedures are adequately implemented.

**Indicator 7.3.4**
Refer to Criterion 4.1 for opportunities of employment and training of **local** people.

## Criterion 7.4: While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.

**Indicator 7.4.1**
There shall be **publicly available** statements that provide an up-to-date summary of the **enterprise**'s:
7.4.1.1 Management objectives;
7.4.1.2 Forest resources (including their environmental limitations, land use and ownership status,

socio-economic conditions, and a profile of adjacent lands);
7.4.1.3 Silvicultural and/or other management system;
7.4.1.4 Rationale for rate of annual harvest and species selection;
7.4.1.5 Provisions for monitoring of forest growth and dynamics;
7.4.1.6 Environmental safeguards based on environmental assessments;
7.4.1.7 Plans for the identification and protection of rare, threatened and endangered species;

**Indicator 7.4.2**
The summary shall have a specific section on the presence of High Conservation Values within the **management unit** and measures that are being taken to maintain or enhance those values.

**Indicator 7.4.3**
Refer to Criterion 4.4 for **consultation** and stakeholder engagement.

# Principle 8: Monitoring and Assessment

**Monitoring shall be conducted - appropriate to the scale and intensity of forest management - to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.**

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**Criterion 8.1: The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.**

**Indicator 8.1.1**
The **forest manager** shall maintain a monitoring plan that describes:

- Elements to be monitored;
- Monitoring indicator(s) for each element;
- Rationale for the selection of each element and monitoring Indicator(s);
- Consistent and replicable monitoring procedures;
- The frequency and intensity of monitoring, consistent with the nature of the monitoring indicator(s), management activities, environmental sensitivity of the site, assessed risks, stakeholder concerns, performance history and changing environmental conditions; and,
- Relevant baseline information – refer to Indicator 6.1.1.

**Guidance**
Monitoring may occur as a rationalised sampling over areas outside the **management unit** or in other certified **management units**, but must be related and applicable to the **management unit**.

**Indicator 8.1.2**
Persons responsible for implementing and maintaining monitoring programs shall be identified.

**Indicator 8.1.3**
The monitoring plan shall be periodically reviewed and available to those doing the monitoring or working with monitoring data.

**Indicator 8.1.4**
A clear link between the monitoring plan and the **management plan** shall be established.

**Criterion 8.2: Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:**

**a) Yield of all forest products harvested;**
**b) Growth rates, regeneration and condition of the forest;**
**c) Composition and observed changes in the flora and fauna;**
**d) Environmental and social impacts of harvesting and other operations;**
**e) Costs, productivity, and efficiency of forest management**

**Indicator 8.2.1**
Yields of all forest products harvested shall be recorded. There shall be a process to reconcile actual volumes against inventory data.

**Indicator 8.2.2**
Data shall be collected on growth rates and condition of the commercially productive area.

**Verifier**
a) There is evidence of permanent sample plots or other valid mechanisms for monitoring growth.

**Indicator 8.2.3**
Data or surrogate data (i.e. photo point monitoring) shall be collected on the composition and observed changes in the flora and fauna.

**Indicator 8.2.4**
The monitoring program shall be sufficient to identify unusual mortality, disease, insect outbreaks or adverse ecological impacts related to the planting of **exotic** species within the **management unit**.

**Verifier S:**
a) The **forest manager** keeps notes of the presence of any notable species of flora or fauna, sufficient to identify significant trends over time.

**Indicator 8.2.5 L**
Environmental, social and cultural impacts of forest operations, including health and safety, shall be monitored.

**Verifier**
The environmental, social and cultural impacts monitored may include:
- Direct and indirect employee numbers.
- Health & Safety statistics.
- Estimated visitor days' or 'visitor days where that can be quantified.
- Number of access permits issued.
- Numbers of requests for access.

**Indicator 8.2.6 S**
The **forest manager** shall be able to identify any significant environmental impacts of harvesting and is aware of the social impacts of operations and avoid, or mitigate these where they are negative.

**Indicator 8.2.7 L**
Environmental and social impacts of forest operations, including health and safety, shall be monitored.

**Indicator 8.2.8 L**
**Appropriate to the scale and intensity** of the operations the environmental and social impacts monitored shall include:
- Direct and indirect employee numbers.
- Health & Safety statistics.
- Visitor statistics.

**Indicator 8.2.9 S**
The **forest manager** shall be able to identify any significant environmental impacts of harvesting and is aware of the social impacts of operations and mitigate these where they are negative.

**Indicator 8.2.10 L**
Post-harvest monitoring shall be carried out to assess waste and damage effects to the site.

**Indicator 8.2.11**
Economic performance shall be monitored including collecting data on costs, productivity and efficiency of forest management.

**Indicator 8.2.12**
Contractors' performance shall be monitored, including compliance with contract specifications.

**Indicator 8.2.13**
The forest **enterprise** shall have a documented programme for collecting data sufficient to demonstrate the **maintenance** (or otherwise) of any High Conservation Values (see Criterion 9.1.1, 9.1.2) within the **management unit.**

### Criterion 8.3: Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody".

**Indicator 8.3.1**
There shall be a system in place which allows all products (timber and non-timber) harvested within the FMU to be readily identified as such, from the time of harvesting through to the point of sale in accordance with FSC Chain of Custody requirements.

**Indicator 8.3.2**
A trademark licence agreement with FSC shall be signed. Use of the Trademark shall be in accordance with the signed agreement.

### Criterion 8.4: The results of monitoring shall be incorporated into the implementation and revision of the management plan.

**Indicator 8.4.1**
Records of monitoring activities shall be kept and the results of research and monitoring programmes are regularly analysed.

**Indicator 8.4.2 L**
The results of monitoring shall be incorporated into periodic reviews of the management plan, policy and procedures.

### Criterion 8.5: While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

**Indicator 8.5.1**
There shall be **publicly available** statements summarising the results of monitoring that are not commercially sensitive.

**Indicator 8.5.2**
The statement shall summarise the results of monitoring for (at least) all of the data listed in Criterion 8.2

# Principle 9: Maintenance of high conservation value forests

**Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach**

## Criterion 9.1: Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.

**Indicator 9.1.1**
The forest **enterprise** shall carry out an assessment of the **management unit** sufficient to identify all parts of the **management unit** that meet the definition of **HCVF**. Refer to Annex 6.3.

**Indicator 9.1.2**
The forest **enterprise** shall clearly map all areas within the **management unit** identified under 9.1.1.

**Indicator 9.1.3**
The **forest manager**s shall have consulted with **local** stakeholders with relevant expertise or knowledge relating to each of the listed High Conservation Values in the identification of areas with those values within the **management unit**.

**Indicator 9.1.4 L**
The assessment procedure and its results (including the comments and suggestions of stakeholders in response to **consultation**) shall be fully documented.

**Indicator 9.1.5 L**
The results of the assessment shall have been reviewed by individuals with expert knowledge of the listed High Conservation Values and **local** knowledge of the area in which the **management unit** is located.

## Criterion 9.2: The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.

**Indicator 9.2.1**
The **forest manager**s shall have consulted with **local** stakeholders with relevant expertise or knowledge on the management options to maintain or enhance the identified High Conservation Values within the **management unit**. The **management plan** is amended where appropriate.

**Indicator 9.2.2**
Stakeholders consulted with under Indicator 9.2.1 shall have subsequently received a copy of the **Management Plan** Summary document section referring to management of High Conservation Values, as referred to in Indicator 7.4.2.

**Indicator 9.2.3**
Stakeholders consulted with under Indicator 9.2.1 shall have been invited to submit any further comments and amendments in respect of the proposed management.

**Indicator 9.2.4**
The forest **enterprise** shall maintain a complete and up to date file of all stakeholder comments submitted in relation to its management of High Conservation Values.

## Criterion 9.3: The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.

**Indicator 9.3.1**
See Indicators, 7.1.13 and 7.4.2. to be considered with the following indicators:

**Indicator 9.3.2**
The management plan shall include specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach**.**

**Indicator 9.3.3**
Measures included in the management plan mentioned in 9.3.1 above shall be implemented to ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach.

**Indicator 9.3.4**
Measures mentioned in 9.3.1 and 9.3.2 shall be specifically included in the publicly available management plan summary.

**Guidance**
a) The above indicators are applied in a way that is consistent with the **precautionary approach.**

## Criterion 9.4: Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes.

**Indicator 9.4.1 L**
See Indicators 8.2.9L.

**Indicator 9.4.2**
Annual monitoring of High Conservation Values within the FMU shall be sufficient to identify mortality, disease, insect outbreak or adverse ecological impact on High Conservation Values related to planting exotic species in the FMU (criterion 8.2c)

**Indicator 9.4.3**
Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain conservation attributes of High Conservation Values

**Indicator 9.4.4 S**
The forest **enterprise** shall have a specific programme for collecting data sufficient to demonstrate the **maintenance** (or otherwise) of any High Conservation Values within **management unit.**

# Principle 10: Plantations

**Plantations shall be planned and managed in accordance with Principles and Criteria 1 - 9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.**

## Criterion 10.1: The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.

**Indicator 10.1.1**
Management planning shall identify the boundaries of the **management unit** encompassed by the certificate, which includes the **plantation forest** plus any designated **reserve area**s.

**Indicator 10.1.2**
Management planning shall identify the requirements for **protection** of **biodiversity** and shall integrate these into working documents.

**Indicator 10.1.3**
Planning complies with Criterion 7.1 and in particular Indicators 7.1.1, 7.1.6, 7.1.10 and 7.1.11.

**Indicator 10.1.4**
The **management plan** shall state the management and restoration objectives of the **forest manager**.

**Indicator 10.1.5**
The **forest manager** shall demonstrate that measures are taken to meet management objectives stated in the **management plan**

## Criterion 10.2: The design and layout of plantations should promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests. Wildlife corridors, streamside zones and a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.

**Indicator 10.2.1**
A network of **riparian** zones shall be identified and protected within the **management unit**.

**Indicator 10.2.2**
**Riparian** zones shall be identified on all waterbodies that have permanent water when forested and where possible are a minimum of 10m each side of the watercourse.

**Indicator 10.2.3**
**Riparian** zones with existing **indigenous** vegetation greater than 20m wide on average, shall be identified and recorded.

**Indicator 10.2.4 L**
**Management plan**s of **indigenous riparian** zones that encompass the provisions of 6.4 and 10.2.1 are prepared.

**Indicator 10.2.5 L**
**Riparian** zones (**indigenous** or mixed species) bordering areas due for harvest shall be mapped and **management plan**s to protect the **biodiversity** prepared before harvesting occurs.

**Indicator 10.2.6**
Planting in new areas shall have **riparian** zones identified on maps before planting begins.

**Indicator 10.2.7**
Meet requirements of 6.2 and 6.4.

**Indicator 10.2.8**
No commercial planting shall be undertaken in **Riparian** Zones (10 metres either side of waterbodies that have permanent water when forested) except under the following conditions:

*(i)* The **forest manager** has a **Decision Support System** specified within the **management plan** that addresses temperature, sediment and nutrient conditions to maintain long term aquatic habitat, and/or
*(ii)* Alternative species (other than radiata pine or Douglas-fir) may be grown in a **riparian** zone under a continuous canopy regime (coupe less than 0.2ha) providing aquatic habitat is not compromised and
*(iii)* Where provisions of the Climate Change Response Act 2002 or its regulations will result in a deforestation liability.

**Verifiers**
a) Where planting has been undertaken within a **riparian** zone evidence of the **Decision Support System** shall be present or plans of the closed canopy harvest are available.

**Guidance Notes**
- It is acknowledged that harvest operations may have a relatively short term effect on instream values, refer to 6.1.1, 6.3.4 and 10.2.9.
- Nothing in 10.2 precludes the harvesting of plantation trees in the **riparian** zone that were planted prior to the standard coming into effect. Replanting shall comply with 10.2.7 and 10.2.8.

**Indicator 10.2.9**
No earthworks shall be undertaken within **riparian** zones, except:
i) in association with designated stream crossings and
ii) it is in maintenance of an existing road and
iii) where a topographical constraint leaves no alternative for the formation of a road and
iv) in emergencies such as fire fighting – access to water or fire breaks.

In any of these exceptions the instream values are to be protected.

**Verifiers**
a) Earthworks within the **riparian** zone are recorded.
b) Where earthworks or roading occurs in the **riparian** zone evidence is available to show how the instream values are protected and how alternatives were considered.

**Indicator 10.2.10**
**Weed** and **pest** control and **restoration** shall be undertaken to protect terrestrial **biodiversity** in **riparian** areas.

**Verifiers**
a) **Weed** and **pest** control is assessed and implemented when necessary to maintain the terrestrial **biodiversity** values of **riparian** zones particularly when harvesting is occurring adjacent to the **riparian** zone.
b) Where necessary **active restoration** of cut lines or encroachments into **riparian** zones is undertaken as soon as practical after harvest operations.
c) Where the **riparian** zone is recognised as a reserve under 6.2 or 6.4 then the requirements for **maintenance**, including **weed** and **pest** control, **restoration** and expansion are carried out.

**Indicator 10.2.11**
The need for wildlife corridors for rare, threatened, and endangered species shall be assessed within the ecological **landscape** and managed

**Verifiers**
a) Wildlife corridors for rare, threatened and endangered species are identified on management maps.
b) **Indigenous wildlife corridor**s can be managed as **reserve area**s where necessary for the **protection** of rare, threatened, and endangered species as per the provisions of 6.2.
c) Wildlife corridors within production areas can be detailed in harvest plans with appropriate management actions considered, including:
(i) Planning of size and spacing of cut blocks to assist movement of **indigenous** species.
(ii) **Protection** of species when discovered.

**Indicator 10.2.12**
Visual **landscape** objectives shall be partly achieved through **protection** and management of **indigenous ecosystem**s. Harvesting and planting shall however still need to take account of the following potential additional visual impacts:

- Roadside harvest on state highways or tourist highways.
- Significant natural features – vantage points.
- Backdrops to urban areas.
- **Mana whenua** perceptions of visual **landscape.**

**Verifiers**
a) Planning of planting and harvesting has taken account of forestry impacts on the visual aspects of significant natural features, backdrops to urban areas, tourist and state highways and other issues of **local** significance. A willingness to negotiate solutions with the community of interest is demonstrated.
b) A willingness to appreciate and negotiate solutions over **mana whenua** visual perceptions of the **landscape** is demonstrated.
c) **L -** Visual **landscape protection** areas are documented on **management plan**s. These may include **indigenous reserve area**s or low impact harvest amenity areas.

**Criterion 10.3: Diversity in the composition of plantations is preferred, so as to enhance economic, ecological and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes and structures.**

**Indicator 10.3.1**
Economic, ecological and social stability shall be achieved by one or more of the following:
- Maintaining production and **reserve areas** within the **management unit.**
- Choosing a species mix which:
  - caters well to **local** conditions; or
  - enables the **forest manager** to respond rapidly to changing market requirements, or
  - supplies a diversity of markets.
- Using a diversity of genotypes.
- Having a mix of age classes and/or rotation lengths.
- Using a variety of silvicultural regimes.
- Demonstrating an understanding of future market trends.
- Taking into account **local** markets/processors.

**Verifier**
a) Where **forest manager**s have only radiata pine and/or Douglas-fir they examine the social, environmental, and economic values of alternative species and establish plantings if appropriate based on these studies.

**Criterion 10.4: The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. In order to enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which shall be used only when their performance is greater than that of native species, shall be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.**

**Indicator 10.4.1**
Species shall be selected in accordance with indicators specified in 10.3.

**Verifiers**
a) **Forest manager**s have access to information demonstrating that the environmental, social and economic performance of **exotic** species is greater than **indigenous** species, or
b) **Appropriate to size and scale**, operational scale trials of **indigenous** species are being carried out. This may be met by participating in a collaborative trial, or
c) **Appropriate to size and scale**, operational scale trials of **exotic** species other than radiata and Douglas-fir are being carried out. This may be met by participating in a collaborative trial.

**Indicator 10.4.2**
There shall be a clear justification for the choice of species and genotypes chosen for the plantation, which takes into account the objectives of the plantation, and the climate, geology and soils at the planting sites.

**Indicator 10.4.3**
If there is a native species, which meets the management objectives, as well as an exotic species, the native species shall be selected in preference to the exotic species.

**Indicator 10.4.4**
**Exotic** species shall be monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.

**Verifier**
ɑ) This standard may be met by taking part in NZFOA's Forest Health Surveillance Programme or a similar programme.

**Indicator 10.4.5**
There shall be a procedure for reporting and responding to unusual events.

## Criterion 10.5: A proportion of the overall forest management area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to restore the site to a natural forest cover.

**Indicator 10.5.1 L**
At least 5% of the area of the **Management Unit** under assessment shall be managed so as to retain it as, or restore it to the condition of natural forest appropriate to the locale of the **Management Unit**. This area shall be included in the **Reserve Set-asides** in accordance with **Indicators 10.5.2 to 10.5.7.**

**Indicator 10.5.2**
A minimum area of reserve set-asides of 10% or equivalent by **Ecological District** and if not possible then **Ecological Region** shall be managed to be protected and/or restored to natural vegetation over time.

**Guidance**
The areas required under 10.5.1 and 10.5.2 must add to a minimum of 10%. The reserve set-asides required under 10.5.2 can be achieved through Indicators 10.5.3 to 10.5.7.

**Indicator 10.5.3**
Within two years the **organisation** shall have implemented a programme to achieve set-asides or equivalent ecological effort.

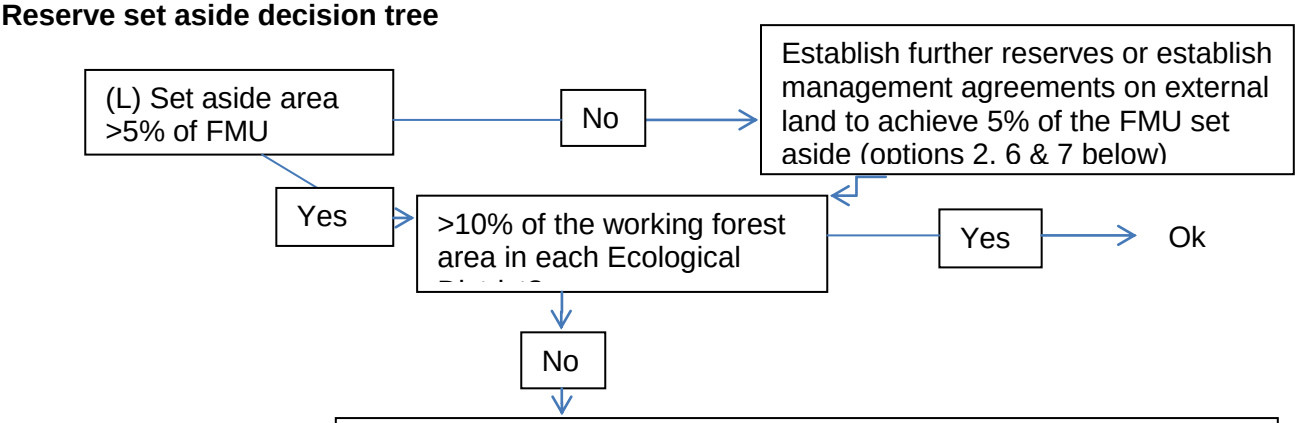
**Indicator 10.5.4**
**Reserve set asides** are recorded on maps and accumulated area totals are recorded.

**Indicator 10.5.5**
**Reserve set aside** areas shall be calculated using the **reserve set-aside calculator so that:**

i. The standard is met where there is 10% **set aside** in the **management unit: or**
ii. If 10% cannot be achieved then this shall be recorded and the **equivalent ecological effort process** shall be followed to make up the shortfall. (refer Guidance for **Equivalent Ecological Effort Process** as follows).

**Guidance for Equivalent Ecological Effort Process Equivalent ecological effort** is to be achieved in accordance with the following decision tree:

**Reserve set aside decision tree**




Undertake equivalent ecological effort by the following means, assessing options in the listed order of priority:

1. Within the **Ecological District** undertake **active restoration** of reserve set-asides or rare **indigenous** species within the **management unit,** and/or
2. Within the **Ecological District** undertake management outside of the **management unit** of **indigenous** species that are also found within the **management unit** ‘, and/or,
3. Within the **Ecological Region** undertake **active restoration** of reserve set-asides or rare **indigenous** species within the **management unit**, and/or,
4. Within the **Ecological Region** undertake management outside of the **management unit** of **indigenous** species that are also found within the **management unit** and/or
5. Within the **Ecological Region** manage an historical ecological problem outside the **management unit**. Historical problems may include plant and animal pests, degraded water quality, soil erosion) and/or
6. In the same or adjacent **Ecological District** or Region contribute to equivalent **indigenous** restoration or **indigenous** species management projects, or
7. In circumstances where equivalent ecological effort cannot be achieved in the above steps similar effort outside the **Ecological Region** may be taken. However, there must be evidence that the above steps cannot practically be met and that the alternative effort is ecologically sound and related to the **Ecological Region** where there is a deficit of reserve set-aside.

The process of assessing options must be documented, confirming that all reasonable efforts have been made to satisfy each priority level before moving to the next priority, with the goal of maximising ecological outcomes.

Any equivalent effort on land outside the Forest Manager’s land to be documented by formal agreement with the landowner, confirming the area can be considered as part of the Forest Managers FMU for the purposes of FSC certification.

**Guidance:** A group of SLIMFS can meet the requirements collectively.

**Guidance notes**
**When calculating reserve set-asides:** The reserve **set-aside** requirement is based on 10% of the working forest area i.e. the productive area + plantation forest infrastructure (roads and landings).

There is no expectation that existing plantation area is to be converted to reserve area. However, this is an option that may occur, particularly to buffer or extend reserve areas.

When considering ecological projects outside the **management unit** the following may be used to assist the **forest manager** in determining the value of any ecological effort.

- Guidance on priorities 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;
- Security of **tenure** and ability to achieve long term ecological management outcomes;
- The level of community or **tangata whenua** interest in an area or project.
- DoC priorities for species management.
- The anticipated ecological benefits and relative costs of the effort compared to alternative projects within the **management unit**

Note: The scale and detail of assessment of options will be in proportion to the scale of shortfall and therefore equivalent ecological effort required.

**Reserve set-aside calculator and adjustments**
Step 1: Identify what forest blocks are in each **Ecological District** or equivalent. The following adjustments may be made:

- Where **Ecological District** boundary(ies) arbitrarily bisects a **management unit** with similar ecological character and landforms, the areas bisected can be considered as one ecological unit.
- Outlying areas of a **management unit,** where each is less than 50ha in any one **Ecological District**/or equivalent can be combined with an adjacent area of the **management unit** which may be in an adjacent **Ecological District** or equivalent.

Step 2: Identify the areas of reserve **set-aside** that contribute to the reserve percentage and calculate their area. The following areas may contribute to reserve **set-asides**:
Identify if their area has an area weighting multiplier. There can be no double accounting of areas:
(S only - the following can be outside the **management unit** but within the land owner's property that adjoins the **management unit**).

- Reserve areas described in criteria 6.2 and 6.4.
- **Indigenous wildlife corridor**s and riparian zones described in criteria 10.2.
- Retired areas currently under maintenance to allow transition to **indigenous** vegetation.
- Areas managed for continuous cover, single tree extraction or harvest coupe areas less than 0.5ha, where **pest** and **weed** control plans are prepared and implemented. The area contribution can only be to a maximum of 3% of reserve percentage. (multiplier is area x 0.5)
- **Waahi tapu** and historic site areas with **indigenous biodiversity** values.

- Highly-valued old-growth stands with multiple values to **local** community. The area contribution can only be to a maximum of 1% of reserve percentage.
- (S only) **Indigenous** Species Plantation or areas managed for continuous cover, single tree extraction or harvest coupe areas to 0.5ha. **Pest** and **weed** control plans must be prepared and implemented in these areas. (multiplier is area x 0.5) The area contribution can only be to a maximum of 5% of reserve percentage up to 40ha sliding to 3% at 1000ha.
- (S only) Permanent **exotic**, or mixed **exotic** / native, (non harvestable) riparian zones of minimum 10m width and maximum 30m each side of waterway. Managed for in-stream values and included stock exclusion and **pest** and **weed** management. The area contribution can only be to a maximum of 5% of reserve percentage for a 1 to 40ha **management unit** sliding to 1% at 1000ha.
- (S only) Permanent **exotic** or mixed **exotic** / **indigenous** (non harvestable) **set aside** areas. This may include multi-tier double row shelter belts, with double fencing. **Management plan**s must detail what actions are being undertaken on these areas to ensure enhancement of **indigenous biodiversity** including pest control. (multiplier is area x 0.5). The area contribution can only be to a maximum of 2% of reserve percentage.
- (S only) Alternative forest crop species apart from Radiata pine and Douglas fir. Excludes short term coppicing for firewood. Stock excluded, understorey allowed to develop and pest control carried out. (multiplier is area x 0.3). The area contribution can only be to a maximum of 4% of reserve percentage for a 1to 40ha **management unit** sliding to 0% at 1000ha MU.

The resources required to achieve **equivalent ecological effort** can be calculated, but are not limited to, one or a combination of the following methods:

- The resources used for **maintenance** of **set-asides** described in criteria 3.3, 6.2, 6.3, 6.4 and 10.2 within the **management unit**, and/or
- The resources used for **maintenance** of **set-asides** described in criteria 3.3, 6.2, 6.3, 6.4 and 10.2 managed by other **forest managers**, and/or
- The resources required to maintain similar protected areas managed by the Department of Conservation.

**Equivalent ecological effort** that would qualify, is additional to maintenance, and should produce real and measurable gain. For clarity, this can include projects carried out to meet other objectives.

**Maintenance** applies to natural areas identified in 3.3, 6.2, 6.3, 6.4 and 10.2.

**Indicator 10.5.6**
The **Forest Manager** has a programme in place in accordance with indicator 10.5.3 to achieve **reserve set asides**.

**Indicator 10.5.7**
The **Forest Manager** has a clearly documented calculation of **reserves setasides** to confirm compliance with indicator 10.5.5.

**Indicator 10.5.8**
Where **equivalent ecological effort** is required to meet the 10% **setaside** requirement, the **Forest Manager** has clearly documented the process used, demonstrating consideration was given to all practical options of **equivalent ecological effort**, in the stated order of priority.

**Indicator 10.5.9**
Where it has been necessary to use an area outside of the **Forest Manager**'s land to meet **equivalent ecological effort**, the **Forest Manager** has a **Management Plan** in place for the area, and a formal agreement with the land owner to effectively include the area within the **Forest Management Unit** to enable the **Forest Manager** to fulfil their FSC obligations.

**Indicator 10.5.10**
The proportion of overall forest to be managed and restored to **natural forest** cover (within one rotation of certification or the standards becoming operative) shall be identified jointly with the requirements of 6.2, 6.4, 10.2, 10.5.1 and 10.5.2

**Guidance**
The overall goal shall be to establish and protect sufficient **natural areas** to enable the **maintenance** of **biodiversity** and **ecosystem** integrity and function. The following **principles** shall be used to guide establishment and management of a **protected natural area** network.

1. Assess the ecological context of certified forest areas within the ecological **landscape.**
2. Identify and protect existing **natural areas** and identified **riparian** zones with **indigenous** vegetation.
3. Control **pest** and **weeds** in those areas.
4. Management of **threatened species.**
5. Restore within existing **natural areas** and **riparian** zones.
6. Rationalise existing **natural areas** and **riparian** zone boundaries by considering aspects of viability and contribution to **biodiversity.**
7. **Restoration** of degraded lands to **indigenous** cover as determined by research to be an ecological necessity to maintain **biodiversity**.

**Verifiers**
a) Existing **natural areas** and **riparian** zones are identified and protected as per the priorities set out in 6.2, 6.4 and 10.2, and the requirements for **weed** and **pest** management, **restoration** and expansion carried out.
b) Within 5 years of certification a course level assessment (desktop exercise) of the **management unit** has been undertaken to assess future rationalisation of boundaries of **natural areas** or establishment of new ones. **Principles** for this assessment include:
    i. Proportion and representation of **ecosystem**s remaining in ecological domains or districts.
    ii. Viable size and shape.
    iii. Quality of habitat.
    iv. Links to other **reserve area**s.
    v. Resilience to introduced species or disturbance events e.g. fire, wind.
    vi. Degree of buffering from adjoining land uses or activities.

The assessment includes maps for future consideration at harvest time.

**Indicator 10.5.11**
Effective **pest** and **weed** control plans shall be developed as per the priorities and timeframes set out in 6.2, 6.4 and 10.2, 3 years after identification.

Guidance: Plans that detail the management of poorly represented, threatened or endangered species are developed or adopted as species are identified.

**Indicator 10.5.12**
**Restoration** programs identified in 6.4 shall be progressively commenced 15 years after these standards come into effect or from the date of first certification whichever is the later.

**Indicator 10.5.13**
The **principles** of conservation biology shall be applied in rationalisation of boundaries of **natural areas**. **Principles** include:
b) Proportion and representation of **ecosystem**s remaining in ecological domains or districts.
c) Viable size and shape.
d) Quality of habitat.
e) Links to other **reserve area**s.
f) Resilience to introduced species or disturbance events e.g. fire, wind.
g) Degree of buffering from adjoining land uses or activities.

**Verifier**
a) Viability is assessed prior to harvest to determine the best shape, size and location for expansion or rationalisation of **reserve area**s and any findings enacted at harvest in accordance with 6.2.11.

**Indicator 10.5.14**
Research findings associated with what is appropriate to maintain **biodiversity** shall be applied to develop a comprehensive reserve network strategy within 5 years of the Standard becoming operative or from date of first certification.

**Verifier**
a) Where a **forest manager** holds information relevant to the development of a comprehensive reserve network strategy this is supplied freely and on request.

**Indicator 10.5.15**
**Restoration** of areas adjoining existing representative reserves (including wildlife corridors or poorly represented **ecosystem**s) shall be commenced at harvest after 2030.

**Criterion 10.6: Measures shall be taken to maintain or improve soil structure, fertility and biological activity. The techniques and rate of harvesting, road and trail construction and maintenance, and the choice of species shall not result in long term soil degradation or adverse impacts on water quality, quantity or substantial deviation from stream course drainage patterns.**

**Indicator 10.6.1**
Forests shall be managed to maintain or improve soil quality.

**Verifiers**
a) Participation in collaborative soil quality research, including implementation of relevant recommendations from the research.
b) See also Indicators 6.1.1, 6.3.1, 6.3.3, 6.3.4 and 6.5.1.

**Indicator 10.6.2 L**
Soil and/or foliage sampling is undertaken to determine nutrient availability and the results and implications are interpreted into management planning.

**Indicator 10.6.3**
Plantations shall be routinely monitored for change in productivity. The cause of this change assessed and restoration plans put in place if the effects are more than minor. Monitoring the growth of the crop trees, and any reductions shall be investigated to determine if they relate to changes in soil quality.

**Verifier**

a) Standard 10.6.1 and 10.6.3 may be met if the **forest manager** is taking part in a research programme that examines long-term site productivity of plantations.

**Criterion 10.7: Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries. The use of chemicals is also covered in Criteria 6.6 and 6.7.**

**Forests shall be managed to protect their health and productivity, including protection against fire, pest and disease.**

**Indicator 10.7.1**

An **integrated pest management plan** shall form an essential part of the management plan.

**Indicator 10.7.2**

**Pest** control methods shall comply with any applicable regional **pest** management strategy and/or have minimal and environmentally acceptable impacts on non-target species.

**Verifiers**

a) Chemical use is undertaken in accordance with 6.6

b) The **forest manager** contributes to New Zealand's biosecurity programmes through:
   - Membership of NZFOA, or
   - Equivalent biosecurity contribution.

c) Any biological control agent or other new organism that is used, has been screened for non – target impacts, and a precautionary approach taken to assessing adverse environmental effects.

**Indicator 10.7.3**

Fire plans and / or other documentation shall set out steps to prevent and suppress fires.

**Guidance**

This documentation should include:

- Contractor's responsibilities for action.
- Contact details for personnel.
- Emergency procedures.
- Maps which include important information such as:
  - Stand identification.
  - Clear access routes.
  - Firebreaks.
  - Dams, ponds & other water supplies.
  - Helipads.
  - Important features for **protection** such as dwellings (including those on adjoining properties), ecological areas, and infrastructure (power lines etc).
  - Equipment and training for fire suppression.
  - Key contracts (such as harvesting) addressing fire requirements.

There is correspondence and other evidence of involvement with the Rural Fire Authority. There is a system for documenting important records and ensuring compliance with the Forest & Rural Fires Act.

**Criterion 10.8: Appropriate to the scale and diversity of the operation, monitoring of plantations, shall include regular assessment of potential on-site and off-site impacts, (e.g. natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in principles 8, 6 and 4. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.**

**Indicator 10.8.1**
A programme shall be provided of monitoring of the environmental performance of forest management on-site and off-site practices (e.g. natural regeneration, effects on water resources and soil fertility and impacts on local welfare and social well-being) appropriate to the scale of the operation.

**Verifiers**
a) A documented program of monitoring of forest management practices.
b) Depending on the size of the forest operation and the sensitivity of the site, this may include:
   - Supervision during harvesting & other operations.
   - Post harvest site checks.
   - **Resource consent** reports.
   - Long term studies assessing the impact of activities.
c) A system for maintaining monitoring records.
d) Regulatory authority monitoring is recorded or **publicly available.**

**Indicator 10.8.2**
No species shall be planted on a large scale until local trials and/or experience have shown that they are ecologically well adapted to the site, and are not invasive. Also refer to P8, 6 AND 4

**Indicator 10.8.3**
The forest enterprise shall pay special attention to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.

**Criterion 10.9: Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly of such conversion.**

**Indicator 10.9.1**
The plantation shall not occupy land converted from **naturally occurring vegetation** after 30 November1994.

**Indicator 10.9.2**

If the plantation was established after November 1994 on land with **naturally occurring vegetation**, there shall be adequate evidence that the current manager/owner was not directly or indirectly responsible.

# 6. Annexes

## 6.1 Prohibited Pesticides

**The following chemical list is the FSC list of 'highly hazardous' pesticides as at January 2011 - prohibited in FSC certified forests and plantations unless a temporary derogation for use has previously been approved by the FSC Board of Directors.**

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| ***Aldicarb*** *WHO Table 1, Class Ia.* | *Acute toxicity (oral): Acute oral LD50 for rats 0.93 mg/kg (e-PM-2006-2007)* |
| ***Aldrin*** | *WHO Table 1, Class Ib (e-PM-2006-2007)*<br>*Acute toxicity (oral): Acute oral LD50 for rats 38-67mg/kg (e-PM-2006-2007)*<br>*Carcinogenicity: Group B2 US EPA*<br>*Banned by international agreement: Stockholm* |
| ***Alpha-cypermethrin*** | *Acute toxicity (oral): Acute oral LD50 for mice 57 mg/kg;*<br>*Aquatic toxicity: LC50 (96 h) rainbow trout 2.8 µg/l (e-PM-2006-2007).*<br>*Bioaccumulation: Kow logP = 6.9 (e-PM-2006-2007).*<br>*Persistence : Half life (DT50): 91 days, (e-PM-2006-2007)*<br>*Soil Sorption Potential (Koc) :??* |
| ***Aluminium phosphide*** | *Acute toxicity (oral): Acute oral LD50 for rats 8.7 mg/kg;*<br>*Aquatic toxicity: LC50 (96 h) for rainbow trout 9.7 µg/l (e-PM- 2006-2007).* |
| ***Amitrole*** | *Carcinogenicity: (Group B2, US EPA;)* |
| ***Atrazine*** | *Endocrine Disruptors category 1 (European Union, 1999)* |
| ****Benomyl*** | *Developmental toxicity (US TRI)* |
| ***Brodifacoum*** | *WHO Table 1, Class Ia.*<br>*Acute toxicity (oral): Acute oral LD50 for rats 0.4 mg/kg; (e-PM-2006-2007).*<br>*Bioaccumulation: Kow logP = 8.5 (e-PM-2006-2007).* |
| ***Bromadiolone*** | *WHO Table 1, Class Ia.*<br>*Acute toxicity (oral): Acute oral LD50 for rats 1.125 mg/kg; (e-Acute toxicity (oral): PM-2006-2007).*<br>*Kow logP = 4.7 (e-PM-2005-2006).* |
| ***Carbaryl*** | *Endocrine Disruptors category 1 (European Union, 1999)* |
| ***Carbosulfan*** | *Acute toxicity (oral): Acute oral LD50 for male rats 250,*<br>*female rats 185 mg/kg.*<br>*Aquatic toxicity: Daphnia LC50 (48 h) 1.5 µg/l.*<br>*Bioaccumulation: Kow logP = 5.4 (e-PM-2006-2007)* |
| ***Chlordane*** | *Acute toxicity (oral): Acute oral LD50 for rats 133-* |

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| | *649 mg/kg; (e-PM-2006-2007).*<br>*Carcinogenicity: (Group B2, US EPA 1986)*<br>*Bioaccumulation: Kow logP = 6.0 (e-PM-2006-2007).*<br>*Banned by international agreement: Stockholm Endocrine Disruptors category 1 (European Union, 1999)*<br>*Persistence: Half life (DT50) in soil about 1 year (e-PM-2006- 2007).*<br>*Soil Sorption Potential (Koc) :??* |
| ***Chlorothalonil*** | *Aquatic toxicity: LC50 47 µg/l in rainbow trout (e-PM-2006-*<br>*2007).*<br>*Carcinogenicity: (Group B2, US EPA 1986* |
| ***Chlorpyrifos*** | *Bioaccumulation: Kow logP = 4.7 (e-PM-2006-2007).*<br>*Acute toxicity (oral): Acute oral LD50 for rats 135-163 mg/kg*<br>*Aquatic toxicity: Daphnia LC50 (48 h) 1.7 µg/l.* |
| ***Cyfluthrin*** | *Aquatic toxicity: (PM) LC50 0.47µg/l in rainbow trout (e-PM- 2005-2006).*<br>*Bioaccumulation: log Kow >3 (e-PM-2006-2007).* |
| ***Cypermethrin*** | *Acute toxicity (oral): Acute oral LD50 for mice 138 mg/kg; (e- PM-2006-2007).*<br>*Bioaccumulation: Kow logP = 6.6 (e-PM-2006-2007).* |
| ***2,4-D, 2-ethylhexyl ester*** | *Bioaccumulation: Kow logP = 5.78 (e-PM-2006-2007).*<br>*Developmental toxicity (US TRI)* |
| ****2-(2,4-DP), dma salt (= dichlorprop, dma salt)*** | *Developmental toxicity (US TRI)* |
| ***DDT*** | *Acute toxicity (oral) : Acute oral LD50 for mice 113-118,*<br>*mg/kg*<br>*Aquatic toxicity: Daphnia LC50 (48 h) 1.10 µg/l (e-PM-2006-2007).*<br>*Carcinogenicity: (Group B2, US EPA),*<br>*Banned by international agreement: Stockholm Endocrine Disruptors category 1 (European Union, 1999)*<br>*DT50= 3months in India (tropical) in temperate regions-4-*<br>*30years (e-PM-2005-2006).*<br>*Soil Sorption Potential (Koc):??* |
| ***Deltamethrin*** | *Bioaccumulation: Kow logP = 4.6 (e-PM-2006-2007).*<br>*Acute toxicity (oral) :Acute oral LD50 for rats ranges from 135 to >5000 mg/kg*<br>*Aquatic toxicity: Daphnia LC50 (48 h) 3.5 µg/l.* |
| ***Diazinon*** | *Acute toxicity (oral): Acute oral LD50 for mice 80-135, mg/kg (e-PM-2006-2006).* |

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| | *Bioaccumulation: Kow logP = 3.3 (e-PM-2006-2007).* |
| ****Dicamba, dma salt*** | *Developmental toxicity (US TRI)* |
| ***Dicofol*** | *Bioaccumulation: Kow logP = 4.3.(e-PM-2006-2007).* |
| ***Dieldrin*** | *WHO Table 1, Class Ib –check with BCPC.*<br>*Acute toxicity (oral): Acute oral LD50 for rats 37-87mk/kg (e- PM-2006-2007).*<br>*Carcinogenicity: (Group B2, US EPA* |
| ***Dienochlor*** | *Bioaccumulation: Kow logP = 3.23 (e-PM-2006-2007).* |
| ***Difethialone*** | *WHO Table 1, Class Ia.*<br>*Acute toxicity (oral): Acute oral LD50 for rats 0.56, mg/kg (e- PM-2006-2007).*<br>*Bioaccumulation: Kow logP = 5.17 (e-PM-2006-2007).* |
| ***Diflubenzuron*** | *Bioaccumulation: Kow logP = 3.89 (e-PM-2006-2007).*<br>*Aquatic toxicity: Daphnia LC50 (48 h) 7.1 µg/l.* |
| ***Dimethoate*** | *Acute toxicity (oral): Acute oral LD50 for mice 160mg/kg (e-PM-2006-2007).*<br>*Bioaccumulation: Kow logP = -4.6 (e-PM-2006-2007).*<br>*Developmental toxicity (US TRI)* |
| ***Diquat dibromide*** | *Aquatic toxicity: Daphnia LC50 (48 h) 2.2 µg/l (e-PM-2006-2007)* |
| ***Diuron*** | *Persistence:Half life (DT50): 90-180 d (e-PM-2005-2006).*<br>*Soil Sorption Potential (Koc):400ml/g 3.3 (e-PM-2006-2007)*<br>*Water solubility: 37.4 mg/l 3.3 (e-PM-2006-2007)*<br>*Developmental toxicity (US TRI)* |
| ***Endosulfan*** | *Acute toxicity (oral): Acute oral LD50 for rats 75-88 mg/kg (e-PM-2006-2007).*<br>*Bioaccumulation: Kow logP for α- = 4.74; β- = 4.79 (both at pH 5 (e-PM-2006-2007).* |
| ***Endrin*** | *WHO Table 1, Class Ia. Check with BCPC*<br>*Acute toxicity (oral): Acute oral LD50 for rats 7.5-17.5 mg/kg (e-PM-2006-2007).*<br>*Banned by international agreement: Stockholm* |
| ***Epoxiconazole*** | *Bioaccumulation: Kow logP = 3.33 (e-PM-2006-2007)* |
| ***Esfenvalerate*** | *Acute toxicity (oral): Acute oral LD50 for rats 75-88 mg/ (e-PM-2006-2007)*<br>*LCD 50 rainbow trout 0.26 µg/l (e-PM-2006-2007).*<br>*Bioaccumulation: Kow logP = 6.22. (e-PM-2006-* |

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| | *2007).*<br>*Persistence: m.), In sand (0.38% o.m.), DT50 88 d; in silty*<br>*loam (pH 5.3, 2.0% o.m.), DT50 114 d; in clay loam (pH 5.7,*<br>*0.2% o.m.), DT50 287 d; in clay loam*<br>*Soil Sorption Potential (Koc) = 5300 ml/g (e-PM-2006-2007).* |
| ***Ethion*** | *Bioaccumulation: Kow logP =4.28 (e-PM-2006-2007)* |
| ***Fenitrothion*** | *Bioaccumulation: Kow logP = 3.43 (e-PM-2006-2007)* |
| ***Fipronil*** | *Bioaccumulation: Kow logP = 4.0(e-PM-2006-2007)*<br>*Acute toxicity (oral): Acute oral LD50 for rats 97 mg/kg(e-PM-2006-2007).* |
| ***Fluazifop-butyl*** | *Bioaccumulation: Kow logP = 4.5 (e-PM-2006-2007)* |
| ***Flufenoxuron*** | *Bioaccumulation: Kow logP = 4.0 (e-PM-2006-2007)*<br>*Aquatic toxicity:LC50 (96 h) for rainbow trout >4.9 µg/l.* |
| ***Gamma-HCH, lindane*** | *Acute toxicity (oral): Acute oral LD50 values vary with test*<br>*conditions, especially the carrier: for rats 88-270, mg/kg e-*<br>*PM-2006-2007*<br>*LC50 (96 h) for rainbow trout 0.022-0.028 mg/l (e-PM-2006- 2007).*<br>*Bioaccumulation: Kow logP = 3.5 (e-PM-2006-2007).*<br>*Endocrine Disruptors category 1 (European Union, 1999)* |
| ***Heptachlor*** | *Acute toxicity (oral): Acute oral LD50 for rats 147-220,mg/kg . (e-PM-2006-2007).*<br>*Carcinogenicity: (Group B2, US EPA)*<br>*Banned by international agreement: Stockholm*<br>*Bioaccumulation: Kow logP = 4.4-5.5 (e-PM-2006-2007).*<br>*Persistence: Soil half life (DT50): 9-10 months when used at agricultural rates. (e-PM-2006-2007)*<br>*Soil Sorption Potential (Koc):??* |
| ***Hexachlorobenzene*** | *WHO Table 1, Class Ia.*<br>*Carcinogenicity: (Group B2, US EPA,)*<br>*Banned by international agreement: Stockholm*<br>*Endocrine Disruptors category 1 (European Union, 1999)* |
| ***Hexazinone*** | *Persistence: Half life (DT50) in soil about 1-6 months (e-PM- 2006-2007); 105 days (The FOOTPRINT Pesticide*<br>*Properties Database); 222 days ( PAN Pesticides database).* |

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| | *Soil Sorption Potential (Koc) : 54 ml/g (The FOOTPRINT Pesticide Properties Database) Water solubility: 29.8 g/ (e-PM-2006-2007);* |
| ****Hydramethylnon*** | *Developmental and Reproductive toxicity (US TRI)* |
| ***Isoxaben*** | *Bioaccumulation: Kow logP = 3.94 (e-PM-2006-2007)* |
| ***Lamba-cyhalothrin*** | *Acute toxicity (oral):Acute oral LD50 for male rats 79, female rats 56 mg/kg. Bioaccumulation: Kow logP = 7 (e-PM-2006-2007).* |
| ***Mancozeb*** | *Carcinogenicity: (Group B2, US EPA,) Endocrine Disruptors category 1 (European Union, 1999)* |
| ***Metam sodium*** | *Endocrine Disruptors category 1 (European Union, 1999) Carcinogenicity: (Group B2, US EPA,) Developmental toxicity (US TRI)* |
| ***Methoxychlor*** | *Endocrine Disruptors category 1 (European Union, 1999) Aquatic toxicity: Daphnia LC50 (48 h) 0.00078 mg/l.* |
| ***Methylarsonic acid (monosodium methanearsenate, MSMA)*** | *Chemical class (heavy metals) As* |
| ***Methylbromide*** | *Inhalation LC50 (4 h) for rats 3.03 mg/l air (N. Kato et al., Ind. Health, 1986, 24, 87-103). Highly toxic to man, with a threshold limit value of 0.019 mg/l air (ACGIH). Check this.* |
| ***Mirex*** | *Banned by international agreement: Stockholm Endocrine Disruptors category 1 (European Union, 1999)* |
| ****Naled*** | *Reproductive toxicity (US TRI)* |
| ***Oryzalin*** | *Bioaccumulation: Kow logP = 3.73 (e-PM-2006-2007).* |
| ***Oxydemeton-methyl, Metasystox*** | *WHO Table 2, Class Ib. Acute toxicity (oral): Acute oral LD50 for rats about. 50 mg/kg (e-PM-2005-2007). Developmental toxicity (US TRI)* |
| ***Oxyfluorfen*** | *Bioaccumulation: Kow logP = 4.47 (e-PM-2006-2007).* |
| ***Paraquat*** | *Acute toxicity (oral): Acute oral LD50 for rats 157-129 mk/kg (e-PM-2006-2007). Bioaccumulation: Kow logP = 4.5 (e-PM-2006-2007).* |
| ***Parathion*** | *WHO Table 1, Class Ia. Toxicity: Acute oral LD50 for rats 2 mk/kg (e-PM-2006-2007). Aquatic toxicity: Daphnia LC50 (48 h) 0.0025 mg/l Bioaccumulation: Kow logP = 3.83 (e-PM-2006-* |

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| | *2007).* |
| ***Pendimethalin*** | *Acute toxicity (oral): Acute oral LD50 for rats 2 mk/kg (e-PM- 2006-2007).*<br>*Bioaccumulation: Kow logP = 5.2 (e-PM-2006-2007).*<br>*Persistence:Half life (DT50) in soil is 3-4 months (A. Walker*<br>*& W. Bond, Pestic. Sci., 1977, 8, 359 (e-PM-2006-2007).*<br>*Soil Sorption Potential (Koc):??* |
| ***Pentachlorophenol*** | *WHO Table 2, Class Ib.*<br>*Bioaccumulation: Kow logP = 5.1 (e-PM-2006-2007).*<br>*Carcinogenicity: (Group B2, US EPA,)*<br>*Endocrine Disruptors category 1 (European Union, 1999)* |
| ***Permethrin*** | *Aquatic toxiciyt: Daphnia LC50 (48 h) 0.6 µg/l. (e-PM-2006-*<br>*2007).*<br>*Bioaccumulation: Kow logP = 6.10. (e-PM-2006-2007).* |
| ***Propaquizafop*** | *Bioaccumulation:Kow logP = 4.78 (e-PM-2006-2007).* |
| ***Propyzamide*** | *Bioaccumulation: Kow logP = 3.3 (e-PM-2006-2007)* |
| ***Quintozene*** | *Bioaccumulation: Kow logP = 5.1 (e-PM-2006-2007).*<br>*Persistence: Persists in soil, with half life (DT50) about 4-10*<br>*months (e-PM-2006-2007).*<br>*Soil Sorption Potential (Koc):??* |
| ****Simazine*** | *Reproductive toxicity (US TRI)* |
| ***Sodium cyanide*** | *WHO Table 2, Class Ib.*<br>*Toxicty: Acute oral LD50 for rats 6.44 mg/kg (e-PM-2006-*<br>*2007).* |
| ***Sodium fluoroacetate, 1080*** | *WHO Table 1, Class Ia.*<br>*Acute oral LD50 for Rattus norvegicus 0.22 mg/kg*<br>*Reproductive toxicity (US TRI)* |
| ***Strychnine*** | *WHO Table 1, Class Ib*<br>*Bioaccumulation: Kow logP = 4.0 (e-PM-2006-2007).*<br>*Acute toxicity (oral): Acute oral LD50 for rats 1-30 mg/kg (e-PM-2006-2007).* |
| ***Sulfluramid*** | *Bioaccumulation: Kow logP >6.8 (e-PM-2006-2007)* |
| ***2,4,5-T*** | *Often contaminated with dioxin.*<br>*Endocrine Disruptors category 1 (European Union, 1999)* |
| ***Tebufenozide*** | *Bioaccumulation: Kow logP = 4.25 (e-PM-2006-2007; The*<br>*FOOTPRINT Pesticide Properties Database).* |

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| ***Terbumeton*** | *Bioaccumulation: Kow logP = 3.04 (e-PM-2005-2006).*<br>*Persistence : DT50 in soil about 300 days (e-PM-2006-2007).*<br>*Soil Sorption Potential (Koc):??* |
| ***Terbuthylazine*** | *Bioaccumulation: Kow logP = 3.21* |
| ***Terbutryn*** | *Bioacummulation : Kow logP = 3.65 (e-PM-2006-2007).*<br>*Endocrine Disruptors category 1 (European Union, 1999)* |
| ***Thiodicarb*** | *Acute toxicity (oral): Acute oral LD50 for rats 66 (in water),*<br>*Aquatic toxicity: Daphnia LC50 (48 h) 27 µg /l*<br>*Carcinogenicity: Group B2, US EPA,* |
| ***Toxaphene (Camphechlor)*** | *Acute toxicity (oral): Acute oral LD50 for rats 80-90 mg/kg*<br>*(e-PM-2006-2007).*<br>*Carcinogenicity: Group B2, US EPA,*<br>*Banned by international agreement: Stockholm*<br>*Endocrine Disruptors category 1 (European Union, 1999)*<br>*Persistence: Half life (DT50) varies between 70 days and 12*<br>*years, depending on soil type and climate) (e-PM-2006-*<br>*2007).*<br>*Soil Sorption Potential (Koc):??* |
| ***Triadimenol*** | *Bioaccumulation: Kow A: logP = 3.08; B: logP = 3.28 (e-PM-2006-2007)*<br>*Persistence: DT50 in sandy loam 110-375 days, in loam 240-270 days (e-PM-2006-2007)*<br>*Soil Sorption Potential (Koc): ??* |
| ***Trifluralin*** | *Bioaccumulation: Kow logP = 4.83 (e-PM-2006-2007).* |
| ***Warfarin*** | *WHO Table 2, Class Ib.*<br>*Acute toxicity (oral): Acute oral LD50 for rats 186 mg/kg (e-*<br>*PM-2006-2007).*<br>*Developmental toxicity (US TRI)* |
| ***Zeta-cypermethrin*** | *WHO Table 1, Class Ib*<br>*Acute toxicity (oral): Acute oral LD50 for rats 105.8 mg/kg (e-*<br>*PM-2006-2007).*<br>*Aquatic toxicity: Daphnia LC50 (48 h) 0.15 µg/l. (e-PM-2006-*<br>*2007).* |
| ***Zinc phosphide*** | *WHO Table 2, Class Ib.*<br>*Acute toxicity (oral): Acute oral LD50 for rats 45.7 mg/kg (e-*<br>*PM-2006-2007).*<br>*Aquatic toxicity: LC50 (96 h) for rainbow trout 9.7* |

| ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** | ***Name of chemical Basis for inclusion on FSC 'highly hazardous' list*** |
|---|---|
| | *µg/l (e-PM-2006-2007).*<br>*Developmental toxicity (US TRI)*<br>*Reproductive toxicity (US TRI)* |

* indicates that were listed as 'highly hazardous' based on stated indicator and shall remain on the FSC list of 'highly hazardous' pesticides until information on Developmental and reproductive toxin has been obtained.

For additional Pesticides prohibited in FSC certified forests and plantations see ***FSC PESTICIDES POLICY: GUIDANCE ON IMPLEMENTATION*** *FSC-GUI-30-001 VERSION 2-0 EN May 5, 2007* .

## 6.2 National Pest Management Group (NPMG) Functions and Process

**1. Functions**

1. Recommendations to FSC about what is /isn't appropriate in a local context
2. Review use and research
3. Information sharing
    i. How much used
    ii. What research
    iii. History of past practice
    iv. Economics
    v. Regional variations
    vi. Future risks and bio-security
4. Advocacy
    i. Authorities
    ii. Constituents
    iii. FSC
5. Complaints/disputes
6. Derogations and new chemicals

**2. Process**

a) NI appointed committee
b) Chamber balance
c) Terms of reference
d) Membership
    a. recommended by each chamber
    b. Expertise in the field
    c. Two per chamber including a reserve
    d. Have a mandate from the chamber
    e. Can call in specialist advisors
e) information sharing and pre-meeting disclosure
f) Meeting frequency 1/yr and as needed for derogations and complaints
g) Annual report
h) CSC meeting responsibilities
    a. Minutes
    b. Reports
    c. Updates
    d. Finance
    e. Research
    f. Allocation of tasks
    g. Forward planning
    h. Derogations
    i. New Chemicals
    j. Agreement on statements to FSC/NI
    k. Complaints/disputes

## 6.3 The 6 types of High Conservation Values

HCV1. Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).

HCV2. Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

HCV3. Forest areas that are in or contain rare, threatened or endangered ecosystems.

HCV4. Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).

HCV5. Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).

HCV6. Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

## 6.4 List of the multilateral environmental agreements and ILO Conventions

**CITES** – www.cites.org

**ITTA** - www.itta.com

**Convention on Biological Diversity** - www.biodiv.org/biosafety/protocol.asp

**ILO** – www.ilo.org/ilolex/english/convdisp1.htm

**List of ILO Conventions that have an impact on forestry operations and practices:**

- 29 Forced Labour Convention, 1930.
- 87 Freedom of Association and Protection of the Right to Organise Conventions, 1948.
- 97 Migration for Employment (Revised) Convention, 1949.
- 98 Right to Organise and Collective Bargaining Convention, 1949.
- 100 Equal Remuneration Convention, 1951.
- 105 Abolition of Forced Labour Convention, 1957.
- 111 Discrimination (Occupation and Employment) Convention, 1958.
- 131 Minimum Wage Fixing Convention, 1970.
- 138 Minimum Age Convention, 1973.
- 141 Rural Workers' Organizations Convention, 1975.
- 142 Human Resources Development Convention, 1975.
- 143 Migrant Workers (Supplementary Provisions) Convention. 1975
- 155 Occupational Safety and Health Convention, 1981.
- 169 Indigenous and Tribal Peoples Convention, 1989.
- 182 Worst Forms of Child Labour Convention, 1999.
- ILO Code of Practice on Safety and Health in Forestry Work (ILO 1998)
- Recommendation 135 Minimum Wage Fixing Recommendation, 1970.
- Conventions number 29, 87, 98, 100, 105, 111, 138 and 182 are Core Standards covered by the 1998
- ILO Declaration on Fundamental Principles and Rights at Work and its Follow-up. ILO member states are expected to promote and realize these principles, even if they have not ratified the Conventions.
- The ILO Code of Practice is not a legal instrument, but it provides authoritative guidance on forest work.

## 6.5 Relevant Public Acts

See http://www.legislation.govt.nz/ for copies of the legislation:

- Resource Management Act 1991
- Historic Places Act 1993
- Conservation Act 1987
- Biosecurity Act 1993
- Forest and Rural Fires Act 1977
- Hazardous Substances and New Organisms Act 1996
- Health & Safety in Employment Act 1992
- Wildlife Act 1953
- Forests Act 1949
- Employment Relations Act 2000
- Treaty of Waitangi Act 1975
- Fencing Act 1978
- Wild Animal Control Act 1977
- Trespass Act 1980
- Crown Forest Assets Act 1989
- Soil Conservation and Rivers Control Act 1941
- Accident Compensation Act 2001
- Climate Change Response Act 2002
- Commerce Act 1986
- Companies Act 1993
- Conservation Law Reform Act 1987
- Co-operative Companies Act 1996
- Crown Minerals Act 1991
- Foreshore and Seabed Act 2004
- Forestry Encouragement Act 1962
- Forestry Rights Registration Act 1983
- Holidays Act 2003
- Income Tax Act 2007
- Injury Prevention, Rehabilitation, and Compensation Act 2001
- Land Act 1948
- Land Transfer Act 1952
- Local Government Act 2002
- Machinery Act 1950
- Maori Reserved Land Act 1955
- Minimum Wage Act 1983
- Misuse of Drugs Act 1975
- Native Plants Protection Act 1934
- Overseas Investment Act 2005
- Personal Property Securities Act 1999
- Plant Variety Rights Act 1987
- Public Works Act 1981
- Sale of Goods Act 1908
- Te Turi Whenua Maori Act 1993/Maori Land Act 1993
- Trade Marks Act 2002
- Transport Act 1962
- Walking Access Act 2008

*[Note that there may be some legislation that applies to specific situations. For example some of the Treaty Settlement legislation has provisions that affect particular pieces of land (The Ngati Awa Claims Settlement Act 2005 has provisions relating to access over the forest land included in the settlement)]*

## 6.6 List of Endangered Species

- IUCN Red List of threatened species
- Published species conservation status lists prepared under the NZ Threat Classification System Manual (2008) or subsequent revision. Refer to the link below.

http://www.doc.govt.nz/upload/documents/science-and-technical/sap244.pdf

# 6.7 High Country tussock scrublands or herb fields as defined in MfE's LENZ publication

**As referenced in to 6.10.2**

**Environment E1**
Environment E1 has a large geographic range occurring from inland Hawke's Bay to Nelson, Marlborough and Canterbury. The climate is cool with high solar radiation, high vapour pressure deficits and low annual water deficits. Slopes are higher than in the other Level II environments in E, reflecting the dominance of dissected hill landforms mostly with sedimentary rock parent materials but with small amounts of rhyolitic, basaltic and andesitic rock and/or ash, granite, and marble. Steep, dissected beds of coarse gravel (Moutere Gravels) are extensive in Nelson. Soils are well-drained and of moderate natural fertility.

**Environment E4**
This environment is quite widespread, occurring in inland valleys throughout Canterbury. The climate is generally cool with high solar radiation, moderate vapour pressure deficits and low annual water deficits. Parent materials for Environment E4 consist of greywacke alluvium with some loess, colluvium and till. Soils are generally well-drained and have high natural fertility.

**Environment K1**
Environment K1 compromises the greatest area (60%) and has the highest mean elevation of the Level II environment in K. It occurs along the upper headwaters of major rivers draining the eastern slopes of the Southern Alps, and on Mt Ruapehu. It is distinguished by its cool, wet climate with high solar radiation and slight annual water deficits. Well-drained soils are formed from greywacke gravels with andesitic tephra in the North Island and some loess in the South Island.

**Environment K2**
Environment K2 is much smaller in area and is restricted to high, intermontane valleys in inland parts of southern Marlborough and south Canterbury. This environment has a cool climate, with high solar radiation, high vapour pressure deficits and moderate annual water deficits. This environment has gently sloping soils formed from greywacke gravels and consequently the environment is well-drained and of high fertility.

**Environment K3**
Environment K3 has the lowest mean elevations in K and consists of narrow ribbons of recent soils along rivers and streams in the eastern ranges of south Canterbury and northern Otago. Climatically this environment is cool, with moderate solar radiation, moderate vapour pressure deficits and moderate annual water deficits. Soils are mostly formed from sands and gravels derived from greywacke and schist with some loess. They are well-drained, with moderate natural fertility.

**Environment K4**
Environment K4 is scattered through the intermontane basins of inland Canterbury with minor occurrences in Otago. The climate is cool, with high solar radiation, high vapour pressure deficits and low annual water deficits. Environment K4 occurs predominantly on areas of fine greywacke alluvium with minimal slope, and the resulting soils are very poorly-drained although highly fertile.

**Environment K5**
Environment K5 is the smallest Level II environment in K and occurs along river valleys in southern Canterbury and Central Otago. The climate is cool, with moderate solar radiation, moderate vapour pressure deficits and slight annual water deficits. Parent materials consist of either greywacke or

schist alluvium with some loess. Soils are generally poorly drained and have moderate natural fertility.

**Environment N5**
Environment N5 is located on the plains near Ranfurly and Wanaka and north east of Alexandra. Scattered occurrences are found in the middle reaches of the Waitaki River. The climate is cool with moderate solar radiation, moderate vapour pressure deficits and high annual water deficits. Parent materials consist of colluvium and loess from greywacke and schist, and small pockets of calcareous mudstone. Soils are imperfectly drained and of moderate fertility. This environment includes small areas of saline soils.

**Environment N6**
Environment N6 consists of extensive glacial outwash material in the Waitaki Basin and alluvium extending downstream to Lake Benmore. Smaller areas occur in Central Otago. Climatically this environment is cool, with moderate solar radiation, high vapour pressure deficits and moderate annual water deficits. Parent materials consist of till, alluvium and loess derived from both greywacke and schist. Soils are well-drained and of high natural fertility.

**Environment N7**
Environment N7 consists of small areas of wetlands in the Upper Waitaki Plains and eastern parts of Central Otago. Climatically this environment is cool, with moderate solar radiation, high vapour pressure deficits and high annual water deficits. Parent materials consist of fine schist and greywacke alluvium with some small areas of loess. Soils are generally poorly-drained and of moderate natural fertility.

# 7.1 Glossary

**The objective of the Glossary is to define and/or explain terms used in the Plantation Standard whose meaning might not be clear or might be different from normal meaning.**

| | |
|---|---|
| **ACC Partnership Programme** | See www.acc.co.nz. This site provides a definition. |
| **Active Restoration** | A programme that involves direct intervention management to increase the survival and recovery of species or **ecosystems**. Such a programme is in advance of **maintenance**. This could involve supplementary planting, feeding or breeding programmes including plant and pest control. |
| **Applicable law** | Includes applicable legislation as well as common law **principles** (e.g., legal **principles** related to contracts). |
| **Appropriate to the scale and intensity** | The phrase '**appropriate to the scale and intensity**" is used in Indicators and Verifiers to indicate to a certifying body that judgement is required in deciding the level of effort that can reasonably be expected from a manager in addressing a particular element of the FSC-NZ National Standard. The intent is to relate expectations to the manager's resources, size of the **management unit**, and potential management impacts related to the specific element. Consideration should also be given to the significance of potential impacts of the management activities addressed, the sensitivity of values potentially affected, the reversibility of the potential effects and the relative importance of the values.<br>An Indicator's number followed by a letter "L" makes it only applicable to large forests, and a letter "S" refers to indicators only applicable to SLIMF's. |
| **Biodiversity (biological diversity)** | The variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic **ecosystem**s and the ecological complexes of which they are a part; this includes diversity within species, between species and of **ecosystem**s (United Nations Conference on Environment and Development 1992). |
| **Biological control agents** | Living organisms used to eliminate or regulate the population of other living organisms. |
| **Chemicals** | Insecticides, fungicides, herbicides, **pesticide**s and hormones, which are used in forest management. |
| **Coarse** | As the term is used in "**coarse** assessment of existing data", "**coarse** data", "**coarse** level" means a desktop exercise assessing existing data rather than collecting new data. |
| **Consultation** | The act of asking advice or opinion from other persons or parties, and of deliberating together over that advice or opinion. When |

consulting, the consulting person or persons must do so with an open mind and not have carried out any actions that would prevent the opinion or advice being actioned. Refer Wellington Airport Case.

**Cultural harvest**

Harvest of **indigenous** flora and fauna for traditional purposes. The main reasons for harvesting are for food, medicines, building, or materials for weaving, weapons, tools, art work, dyeing, etc. **Cultural harvest**s would include:

- Harori, Heke (fungus) for food
- Leaves such as kawakawa, mingi, kumara hou for medicines
- Bark for dyeing
- Kiekie (at different stages) for food or weaving
- Berries for food
- Tunga (grub) for food
- Fresh water fish (eels, kewai, karawaka, inanga, papane)
- Nikau for food or thatching or decorative material
- Birds for food
- Small hardwood for weapons, tools or toto
- Totara for building and carving
- Kauri for waka

**Customary Rights**

Rights which result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit.

**Decision support systems**

A clearly defined and documented process that provides a structured framework to help improve the effectiveness of decision making. Components of a DSS include assessment criteria, procedures and rules or guidelines to manage how operational activities are undertaken and how risks are managed. The assessment criteria would include operational and economic, legal and industry agreements, physical and social factors like: soil/geology, topography, rainfall, hydrology, ecology, visual, downstream values, neighbours, community, Maori and cultural. Management procedures, rules or guidelines would include meeting industry Best Management Practices, or requirements more stringent than these.

**Dispute Resolution**

The process whereby every reasonable effort shall be made to resolve grievances (that are not vexatious or frivolous) initially through negotiation, and if negotiation is unsuccessful, through an agreed unbiased third party facilitator/mediator. If mediation is unsuccessful then the case may be referred to arbitration.

**Negotiation**
The process of discussions between parties aimed at reaching an agreement over common issues.

**Facilitation/Mediation**
The process where an independent and impartial third party assists those in dispute to negotiate an agreement.

**Arbitration**
An alternative to litigation where the parties in disputes submit their case to an arbitrator appointed under the Arbitration Act 1996, who makes a decision that is binding.

**Ecological District** One of the major levels for the ecological classification of land. New Zealand has been divided into 268 **Ecological Districts** according to geological, topographical, climatic and biological features and processes, which interrelate to produce characteristic **landscape**s and ranges of biological communities. (The New Zealand **Protected Natural Areas** Programme, Kelly and Park, 1986).

**Ecological Region** One of the major levels for the ecological classification of land. New Zealand has been divided into **Ecological Regions** according to geological, topographical, climatic and biological features and processes, which interrelate to produce characteristic **landscape**s and ranges of biological communities. (The New Zealand **Protected Natural Areas** Programme, Kelly and Park, 1986).

**Ecosystem** A biological system comprising a community of living organisms and its associated non-living environment, interacting as an ecological unit– (Biowhat –2000).

**Enterprise** Refers to **forest manager**

**Exotic** An introduced species not **native** or endemic to the area in question.

**Fine level** The fine level evaluation will include an on the ground assessment of:

- Vegetation types present and condition
- fauna present and known habitat requirements and relationships
- rare, threatened, or endangered species distributions, habitat and ranges
- focal, indicator or umbrella species
- seral stages and ecotones
- micro-**landscape**s, particular physical features, and landforms
- any evidence of threats to **ecosystem** values present, such as animal **pest** damage or invasive plant **pest**s.
- The benefit of expanding the area of a reserve to secure the viability of the **ecosystem**s; guided by the following site criteria:
    - *i.* biologically viable shape and size
    - *ii.* socially and economically logical
    - *iii.* suitable for **restoration** to habitat for species being considered
    - *iv.* links to other **reserve area**
    - *v.* buffering from adjoining land uses, **pest**s

and disturbance event like fire and wind.

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| **Forest manager** | The people (including the owner/s where these are one and the same) responsible for the operational management of the forest resource and of the **enterprise**, as well as the management system and structure, and planning and field operations. Forest managers refers to those with their own forest certificate, and/or those who are members of a certified group scheme. |
| **Genetically modified organism (GMO)** | Any organism in which the genes have been modified by using in vitro (recombinant DNA) techniques. For example, GM potatoes or pine trees modified to resist disease or improve their growth rate. (ERMA Definition) |
| **Hapu** | A number of **whanau** from a common ancestor. Sub-tribe (Waitangi Tribunal 1991). |
| **High Conservation Value Forest (HCVF)** | Refer to Annex 6.3 |
| **Hui** | Meet; come together |
| **Indigenous** | A species of flora or fauna that occurs naturally in New Zealand or arrived in New Zealand without human assistance. |
| **Indigenous peoples** | "The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and, by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; who today live more in conformity with their particular social, economic and cultural customs than with the institutions of the country of which they now form a part, under State structure which incorporates mainly the national, social and cultural characteristics of other segments of the population which are predominant" (Working definition adopted by the UN Working Group on **Indigenous Peoples**). |
| **Indigenous tree species** | Any woody plant which ultimately forms part of the canopy of a naturally occurring forest or any **indigenous tree species** that attains a diameter at breast height of 30cm or greater (NZ Forest Accord 1991). |
| **Indigenous wildlife corridor** | A strip of **indigenous** flora designated to facilitate passage of **indigenous** fauna between distinct populations or between seasonal food sources. The width of an **indigenous wildlife corridor** is dependent on the species for which the designation has been made |
| **Integrated pest management (IPM)** | An **integrated** method for **pest** control that relies on a range (or 'continuum') of operational approaches to reduce damage to the forest rather than eliminate the **pest**. Techniques may include the |

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| | use of natural predators and parasites, genetically resistant hosts, environmental modifications, **silvicultural practices** and when necessary and appropriate, **chemical pesticide**s or herbicides. An important goal of IPM is to minimise environmental impact. |
| **Iwi** | A number of **Hapu** from a common ancestor. Tribe, people. (Waitangi Tribunal, 1991). |
| **Kaitiaki Practices** | Traditional land stewardship practices. |
| **Landscape** | A geographical mosaic composed of interacting **ecosystem**s resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area. (**Source:** IUCN). |
| **Landscape level** | At a spatial scale above a single plant community or forest stand and below a region. |
| **Legal or customary Tenure or use rights** | In the New Zealand context and for the purposes of Criterion 2.2, Legal or customary **tenure** and use rights include, but are not limited to:<br>• Easements and covenants;<br>• Public and private rights of way;<br>• Statutory **tenures** (e.g. licences, permits etc. under Crown Minerals Act, Conservation Act);<br>• Customarily or legally permitted uses of Crown land for gathering of non-timber forest products, hunting, fishing etc.;<br>• Customarily or legally permitted uses of private land;<br>• Rights or obligations related to construction, rehabilitation or maintenance of roads, tracks or other recreation facilities;<br>• Rights to use public footpaths or roads (e.g. to well known landmarks, features or viewpoints);<br>• Water use and stream stewardship rights and obligations (e.g. under the Resource Management Act). |
| **Local** | People are considered **local** where they reside, and organisations are considered **local** where they are based, within commuting distance by car from the **management unit**, or where they are **Tängata Whenua**, whose lands contain, or are contained within, the **management unit**. |
| **Local laws** | Includes all legal norms given by organs of government whose jurisdiction is less than the national level (e.g. Regional and District Councils). |
| **Maintenance (in relation to set asides and reserves)** | Actions aimed at preventing irreversible decline of species or **ecosystem**s and enabling natural regeneration to take place including in particular a **pest** and **weed** control programme and prevention of external disturbance. |

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| **Management plan** | The collection of (paper or electronic) documents, data decision support systems, processes, records and maps that describe, justify and regulate the activities carried out by any manager, staff or organization within or in relation to the **management unit**, including statements of objectives and policies. |
| **Management unit** | A clearly defined spatial area or areas with defined boundaries managed to a set of explicit management objectives which are expressed in a self-contained multi-year **management plan** including all facilities and area(s) within, embedded by or bordering this spatial area or areas a) under legal title or management control or b) operated by The Organization or on behalf of The Organization for the purpose of contributing to the management objectives and outside and not bordering this spatial area or areas operated by The Organization or on behalf of The Organization solely for the purpose of contributing to the management objectives. FSC definition |
| **Natural Areas** | Areas of land with a predominant cover of **indigenous** vegetation, including **natural forest**s as defined below, tussock grasslands as per Annex 6.7, dune lands, wetlands etc and also naturally occurring water bodies. (**Principles** for Commercial **Plantation Forest** Management in New Zealand, 1995). |
| **Natural Forest** | Areas of land which are predominantly covered in **indigenous tree species** that are naturally established, including managed **indigenous** forest areas where regeneration is supplemented by planting of **indigenous** species. |
| **Naturally Occurring Vegetation** | (i) Any area of 5 hectares or greater which has an actual or emerging predominance of naturally occurring **indigenous tree species** of any height.<br>(ii) Any natural **indigenous** forest vegetation of between 1 and 5 hectares with an average canopy height of at least 6m which is practical to protect. This recognises that in some instances small pockets of **native** vegetation within a commercial forest cannot practically be protected from disturbance. However viable stands will be excluded from clearance and every reasonable effort made to ensure such areas are not damaged in subsequent forestry operations.<br>(iii) Any vegetation recommended for **protection** in survey report in the **Protected Natural Areas** programme or classified as a Site of Special Wildlife Interest (SSWI) in a published report by the former Wildlife Service. In **ecological districts** where such surveys have not taken place, areas that would qualify as a **Recommended Area for Protection** (RAP) or SSWI in the professional opinion of the Department of Conservation using established criteria for such surveys |
| **Non-chemical method** | A management technique used to control **weeds**, insects, or fungal **pest**s that doesn't employ any **chemicals**. |
| **Pasture** | Land that has been cleared of natural vegetation, sown in grasses and grazed by domestic stock. |

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| **Period review or update** | No more than 5 years. |
| **Pest** | Organisms that damage desired species and **ecosystem**s. |
| **Pesticide** | **Chemicals** or biological agents biocidal effects, embracing insects, **weeds**, fungi and micro-organisms among their targets. Includes herbicides, insecticides, and fungicides. |
| **Plantation Forest** | Areas of land predominantly covered in trees grown for cropping and managed primarily for commercial purposes and excluding **natural forest**s as defined here. (Principles for Commercial **Plantation Forest** Management in New Zealand, 1995). |
| **Poorly represented ecosystems** | A habitat type where <5% of that type remains within the **ecological district**. |
| **Precautionary approach** | An approach requiring that when the available information indicates that management activities pose a threat of severe or irreversible damage to the environment or a threat to human welfare, The **Organization** will take explicit and effective measures to prevent the damage and avoid the risks to welfare, even when the scientific information is incomplete or inconclusive, and when the vulnerability and sensitivity of environmental values are uncertain. |
| **Principle** | An essential rule or element; in FSC's case, of forest stewardship.<br><br>**Principles for protecting and expanding natural areas**<br>i. biologically viable shape and size<br>ii. socially and economically logical<br>iii. suitable for **restoration** to habitat for species being considered<br>iv. links to other **reserve area**<br>v. buffering from adjoining land uses, **pest**s and disturbance event like fire and wind. |
| **Prohibited Chemicals** | See Annex 6.1 for a list of **prohibited chemicals and the reference for other FSC prohibited chemical information.** |
| **Protected Natural Area** | Under the Protected Natural Areas Programme, a legally protected area, characterised by **indigenous** species or **ecosystem**s in which the principal purpose of management is retention of the natural state. (Bio-what, Feb. 2000, MfE, p85). |
| **Protection** | In relation to an **ecosystem**, plant or animal, means to maintain, as far as is practicable, in its current state. |
| **Publicly Available** | **Publicly available** means documents must be made available on request, *or* accessible on a website, so long as the information is not commercially sensitive and is requested during normal working hours. |
| **Rare, threatened** | |

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| **or endangered species** | Any species listed in either of the following two publications or their updates under the specified categories<br>a) IUCN Red List of **threatened species**- Critically endangered, endangered or vulnerable<br>b) N.Z. Threat Classification system (2008 or update) - Nationally critical, nationally endangered or nationally vulnerable. |
| **Reasonable** | Judged to be fair and appropriate to the circumstances or purposes, based on general experience. |
| **Recommended Area for Protection** | A place identified as a priority for **protection** under the 'Protected Natural Areas Programme' because it contains the best example(s) of its type or class of natural **ecosystem** and/or **landscape** in an **ecological district**. (The New Zealand **Protected Natural Areas** Programme, Kelly and Park, 1986). |
| **Reserve Area** | A reserve is an area within a **Management Unit** in which extractive management (the removal of indigenous logs or species and/or of minerals from the reserve) is specifically excluded. This does not preclude one-off commercial harvest of **exotic** species as part of a **restoration** programme or **cultural harvest.** |
| **Resource Consent** | As defined in section 87 of the Resource Management Act 1991. |
| **Restoration** | Returning a place as nearly as a possible to a known earlier state by reassembly, reinstatement, and/or the removal of extraneous additions (ICOMOS New Zealand Charter, 1993). |
| **Riparian** | Relating to, or living, or located in close proximity to a natural water body (IFU110 in part) (See 10.2.1). |
| **Set Aside** | Areas, including reserves, managed primarily for **biodiversity** values. See list in step 2 of 10.5. |
| **Significant Natural Area** | Generally, but not constrained to being subject to one or more of the following:<br>• An area that supports an **indigenous** species that is poorly represented within its **ecological district**;<br>• Area is one of the best examples of an association of species typical of its **ecological district**;<br>• The area supports an association of species poorly represented in the **ecological district**;<br>• The area is little modified and comprises a predominantly intact **indigenous** system not affected in a major way by **weed** or **pest** species;<br>• An area connected to other significant **natural areas** in a way that makes a major contribution to the overall value or natural functioning of those areas. |
| **Silent File Information** | A file reference that directs the searcher to the particular **hapu** or **whanau** that holds that particular piece of information, e.g. the location of a **waahi tapu**. |

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| **SLIMF** | **(small or low intensity managed forest)**<br>A **management unit** which meets specific FSC requirements related to size and/or intensity.<br>For the purpose of this standard a **SLIMF management unit** is a maximum of 1000 ha,<br>See **appropriate to the scale and intensity** and Annex 6.8 for further explanation. |
| **Statement of national priorities for protecting rare and threatened native biodiversity on Private Land** | Refer to 'Protecting Our Places, Introducing the National Priorities for Protecting Rare and Threatened Native Biodiversity on Private Land. |
| **Taonga** | Treasured possessions; includes both tangible and intangible treasures. |
| **Tängata Whenua** | In relation to a particular area, means the **iwi**, **hapü** and **whanau**, that holds mana whenua (customary authority associated with **tino rangatiratanga**) over that area. (RMA 1991). 'People of the land'. **Tangata whenua** includes land owners and non land owners. |
| **Tenure** | Socially defined agreements held by individuals or groups, recognised by legal statutes or customary practice regarding the "bundle of rights and duties" of ownership, holding, access and/or usage of a particular land unit (landholding) or the associated resources therein (such as trees, plant species, water, minerals etc.). |
| **The Organisation** | The **enterprise**, or the group of people, or the individual with the responsibility for policies, decisions, and activities affecting the **management unit**. Legally, the certificate holder or applicant for certification is ultimately responsible for compliance with the Principles and Criteria. The Organization may be a land owner (private or public), manager, concession holder, certificate holder or applicant for certification itself, association and members or officials of a community, cooperative or group certification scheme, and their staff. (Source: FSC 2010) |
| **Tikanga** | Mäori traditions, customs, lore or law; the correct Mäori way. (RMA, 1991) |
| **Tino Rangatiratanga** | The right of **Tängata Whenua** to exercise full authority and control over their lands, resources and **taonga**. |
| **Very poorly represented ecosystems** | A habitat type where <1% of that type remains in the **ecological district.** |
| **Wähi Taonga** | Places of special value. |

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| **Wähi Tapu or waahi tapu** | Place sacred to Maori in the traditional, spiritual, religious, ritual or mythological sense. (Historic Places Act 1993). |
| **Weed** | Plant growing in a location where it is undesired. |
| **Whanau** | A nuclear or extended family. |
| **Wildings** | Natural regeneration of **exotic** tree species outside the plantation area. |