Forest Stewardship Council®



The FSC National Forest Stewardship Standard of the Republic of South Africa

FSC-STD-ZAF-01-2017 V1-0
Plantation Forests, all scales of operations

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The Forest Stewardship Council® (FSC®) is an independent, not for profit, non-governmental organization established to support environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

FSC's vision is that the world's forests meet the social, ecological, and economic rights and needs of the present generation without compromising those of future generations.

1. FOREWORD

1.1 FSC International

The Forest Stewardship Council® (FSC®) is a global non-profit organization dedicated to the promotion of responsible forest management worldwide. Founded in 1993 following the 1992 Rio Conference, FSC is now widely considered to be one of the most important initiatives to improve the management of world forests. FSC is a certification system that provides standards, an accreditation system, and a logo that proves assurance of compliance with standards of sustainable forest management. FSC has established a set of principles and forest management criteria that serve as a world reference. The FSC label provides a credible link between the responsible production and consumption of forest products, enabling consumers and businesses to make decisions that benefit people and the environment, while providing ongoing business value. FSC is an international association of over 800 members, consisting of a diverse group of representatives from environmental and social groups, the timber trade, the forestry profession, indigenous people's organizations, responsible corporations, community forestry groups, and forest product certification organizations from around the world. FSC has a unique governance structure that is built upon the principles of participation, democracy and equality.

1.2 FSC in South Africa

South Africa is represented via the Southern Africa Sub-regional office.

The first FSC certificate issued in South Africa was to State owned timber company SAFCOL in 1996. Since then, the majority of the large-scale timber growers have obtained and retained FSC certification. Certification has also spread to some medium and smaller producers via FSC Group certificate schemes although to a much lesser extent. As large growers dominate timber production in South Africa, approximately 80% of commercial plantations are FSC certified. Most of the FSC certified timber from South Africa is exported.

1.3 Standard development activities

A FSC National Initiative Working Group was established in 2005 in order to develop a national certification standard. After an extended process, the draft national standard was submitted to FSC in December 2012 and was approved in January 2014. The effective date for implementation was 1 July 2014. Separate standards were developed for SLIMF, non-SLIMF and indigenous forests. In the interim, the international FSC Principles and Criteria Standard was substantially revised. Version 5 of the FSC Principles and Criteria (P&C) was released in February 2012. Furthermore, FSC was in the process of finalising a set of International Generic Indicators (IGIs) as the starting point for the development and transfer of all National standards to the V5 P&Cs. In effect, the SA National Standard was out of date when it was approved. FSC acceded to a request to defer implementation of the approved SA Standard and begin the process of transferring to version 5 of the P&C. During this transfer process the SLIMF and non-SLIMF standards were combined and it was decided not to include indigenous forests.

The South African Standards Development Group (SDG-SA) was registered by FSC in October of 2014. This followed submission and approval by FSC of the terms of reference for the SDG, and a proposal and work plan for the transfer of the national standard. SDG-SA comprises 6 members, two from each chamber (Social, Environmental and Economic) with one member acting as co-ordinator of the group. It was agreed by consensus not to appoint consultants and that members of

the SDG would take on the task of standard transfer and indicator development, drawing extensively on specialists and stakeholders throughout the process.

Each Chamber sourced funding to cover their involvement in the transfer process. WWF funded the Environmental Chamber, including extensive drafting time and consultation workshops. FSC provided support to the SDG co-ordinator role, SDG meeting costs and social chamber consultations. One member of the social chamber participated as part of her community outreach for the University of KwaZulu-Natal, where she is employed. Economic chamber participation and consultation were met by the forestry company employers of the two members. Certification Bodies - Soil Association and SGS funded the auditing costs during forest testing.

The first step in the transfer process was to create a matrix showing the IGI and corresponding SA Standard indicators under the relevant Version 5 criteria. SDG workshops were held to decide on whether to adopt the IGI, SA Standard Indicator or to create a new indicator. During this process the risk-based approach was devised. This is described in section 2.3 of this foreword.

The resulting Version 1 draft standard was widely circulated to FSC stakeholders through email and was made publically available in a downloadable version on the Forestry Certification webpage platform provided to the SDG by the SA Forestry magazine and by the FSC Africa homepage.

The V1 draft standard was also used as the basis for a series of Chamber-based workshops and expert consultation meetings on aspects of critical concern. WWF hosted a series of workshops for environmental stakeholders and interest groups throughout the country. The social chamber held meetings with organised labour and consulted with representatives of indigenous peoples. A special session of the Forestry South Africa Environmental Management Committee provided an opportunity for scrutiny by environmental and forestry mangers of all FSA members.

The standard was revised taking account of all comments submitted by stakeholders during the 60 day consultation period and inputs from Chamber-based meetings and workshops. A second version of the standard was produced as the basis for field testing. Two accredited certification bodies active in South Africa; Soil Association (through their South African associate SABS) and SGS provided experienced lead auditors to test the draft standard, and covered their costs. The draft standard was then further revised incorporating insights and recommendations of field testing teams.

Version 3 of the draft Standard was released for public consultation at the end of 2016. This final Draft standard was produced after an extensive and thorough process of review and incorporation of stakeholder inputs, as well as edits to ensure consistency and clarity.

2. NATIONAL CONTEXT

2.1 Scope

Commercial forestry in South Africa is almost entirely based on plantations of fast growing exotic *Pinus*, *Eucalyptus* and *Acacia* species. Timber plantations were mainly established in non-forest ecosystems, replacing grasslands and fynbos. There are about 1.3 million hectares of timber plantations in South Africa and expansion is controlled though strictly enforced licensing requirements. Over the last 15 years the area under plantation forestry has in fact decreased as trees have been removed from ecologically sensitive or from commercially unviable areas.

Indigenous forests cover only about 0.5 million hectares and are legally protected from any exploitation, although limited harvesting takes place under strict licensing conditions.

The South African forest management standard is focused on plantation forestry of all species present in South Africa. It is applicable to all scales and ownership categories of plantation forestry. Indigenous forests are not covered in this version of the standard. Indigenous forests are strictly protected by the National Forests Act (Act 84 of 1998) and very little timber harvesting takes place. Furthermore, the approach was to make the SA Standard very specific for the plantation context and accommodating indigenous forests would compromise this goal. There were no active FSC certificates for indigenous forest harvesting in South Africa at the time of transfer process.

2.2 Scale and Ownership Categories

The following categories of scale and ownership are applied to the Standard.

	SIZE ha of plantations	**CHARACTERISTICS**
SLIMFs	<1000	These can form part of a mixed farming operation or may be exclusively timber farms. On mixed farms the FMU must be demarcated on maps to indicate the scope. The majority of these FM's are a single contiguous property. The majority have an owner who is also the manager. In South Africa all certified SLIMFs are currently part of group certification certificates. The standard specifies where requirements can be met at group level.
Family Forestry (FF)	<1000	Operations where all the work is done by family members. Where requirements are different, this is specified. In the all other cases the requirements are assumed to be the same as SLIMF.
Medium (MS)	1,000-10,000	These can form part of a mixed farming operation or may be exclusively timber farms. On mixed farms the FMU must be demarcated on maps to indicate the scope. FMUs can be single contiguous property or across more than one property. Where single FMUs are spread out on different properties, these FMUs tend to be located in close proximity to each other (within 60 km). The majority of medium scale FMUs are certified under group certificates.
Large (LS)	10,000+	These FMUs typically have multi-level management structure and corporate ownership.
Owner Manager (OM)	<10,000	Where medium scale operations have an owner that is also the manager they may have different requirements to demonstrate compliance. Such indicators will be marked as OM.
Traditional Authority (TA)	NO LIMIT	These are communal areas, where land rights are accorded to people by the traditional authorities and where specific legislation is in place to protect communal land rights.

2.3 Risk-based Approach

Whilst attempting to adapt C6.1, 6.2 and 6.3 to the plantation environment, a risk-based approach was devised. The SDG's interpretation of C6.1, C6.2 and C6.3 was that if these criteria were complied with thoroughly, they would cover all the environmental requirements in the standard and effectively render a substantial portion of the standard redundant.

It became clear that the environmental values* referred to in P6 could be defined for the entire plantation industry and could be equated to conservation values (*See Annex 6 - Glossary*).

Furthermore, it was understood that due to the regular nature of the plantation cycle, the impacts of management activities on environmental values are mostly predictable and can be avoided or mitigated. Following from this, the SDG produced a risk assessment to cover all significant forestry activities and their impacts on the identified environmental/conservation values. This was done through consultation with acknowledged experts and stakeholder input. The process provided an extremely useful tool to aid the standard transfer process to meet the attributes listed below, that the SDG wanted the standard to possess. Using a risk assessment approach, the indicators in the standard effectively provide mitigation measures. The risk assessment displays the relevant indicators for each hazard or impact (Refer to Annex 4 for complete description of the approach).

The SDG saw the transfer process as an opportunity to substantially improve the Standard in the following ways:

1. By making the FSC standard more relevant to forestry in South Africa through ensuring that it is closely tailored to the South African plantation context. For this reason, natural forest harvesting was not included. It was agreed that indigenous forest indicators could be added when the standard was reviewed should the need arise.
2. By ensuring the Standard deals proportionately with the risks of plantation forestry management. A well-designed standard will result in the most important issues receiving the most attention and being addressed in a constructive way.
3. Ensuring that the standard is adaptable to any scale in order to allow more smallholders to be certified.
4. Ensuring the primacy of field or output based indicators.
5. Expressing the indicators in clear, concise language that is familiar to the people working in forestry.

The approach was discussed within the SDG and formally presented to the head of FSC Performance and Standards Unit (PSU), the Policy and Standards Committee (PSC) and the New Approaches Initiative (NAI). On all occasions, the approach was met with interest and encouragement. It was acknowledged that the approach was in line with the Global Strategic plan, particularly the following aspects listed under Success Criterion 1.1:

- Policies and standards are aligned with strategy, are outcome-oriented and risk-based*.
- Policies and standards are developed in plain language, organized in user-friendly ways, and are easily and uniformly understood by users.

Where necessary, context statements were formulated to explain how the Principles or Criteria were interpreted in the South African context and to draw attention to particularly important risks. Thereafter a process to formulate indicators, means of verification and guidance notes was followed in accordance with FSC standards and procedures. The risk assessment methodology is described in detail in Annex 4.

2.4 Standard development procedure

The following process was followed by the SDG:

1. For each principle, the meaning and intent of each of the criteria were defined.
2. Each criterion was interpreted for South African conditions and expressed in clear, concise, familiar language.
3. Where relevant a risk analysis was conducted. This involved deciding what the most important elements of the Principles and its Criteria were in the South African context and describing the risks and opportunities for improvement.
4. Analysis of drivers of the risks (hazards). (For detail refer to Annex 4.)
5. Develop indicators that address the drivers.
6. Determine if there is an IGI that is equivalent which meets all the requirements.
7. Write justification if IGI is not used or modified.
8. Define means of verification.
9. Write guidance where necessary. Guidance must clarify terms, put the issue in perspective and define what constitutes compliance.

3. VERSION OF THE STANDARD

3.1 Version number and date

FSC-STD-ZAF-2017 V1-0

3.2 SA-SDG

This version of the Standard was developed by the South African Standards Development Group (SA-SDG) through a consultative process as outlined in FSC-STD-60-006 (V2-1) and detailed in section 1.3 above.

4. CONTEXT

4.1 Geographical area covered by this standard

The South African forest management standard covers plantation forestry of all species present in the geographical boundaries of South Africa. It is applicable to all scales and ownership categories of plantation forestry. Indigenous forests are not covered in this version of the standard.

4.2 Members of SA-SDG 2014-2017

Environmental Chamber	Economic Chamber	Social Chamber
Dr David Lindley WWF-South Africa	Dr David Everard Sappi Forests	Dr Cathy Sutherland University of KwaZulu-Natal
Steven Germishuizen African Environmental Services	Karen Kirkman Independent	Jeanette Clarke (Co-ordinator) Independent

The main drafters of this standard were Steven Germishuizen and David Everard. Other SDG members were also actively involved in developing elements of the standard and reviewing drafts produced by the main drafting team.

4.3 Key Advisors

The draft standard went through extensive stakeholder consultation as well as field testing. The total number of inputs received per Chamber/Group was as follows: Environmental Chamber 14; Economic chamber 12; Social Chamber 10; Government 11, CBs 2. The persons named below provided extensive inputs to the development of the current standard during field testing, workshop session and/or in writing.

Name	Affiliation	Type of input	Chamber
Craig Norris	NCT Timber Cooperative	Written	Economic
Felicity Henman-Weir	SGS	Written, meetings, field testing	Certification Body
Neels Pienaar	Soil Association (SABS)	Field testing	Certification Body
Sappi staff	Sappi	Workshop	Economic
Brent Corcoran and Mondi staff	Mondi	Written	Economic
John Scotcher	Forestlore Consulting	Written	Economic
Naomi Fourie	Department of Water and Sanitation (DWS)	Written Workshop	Government
Dr Brian van Wilgen	Centre for Invasion Biology, University of Stellenbosch	Workshop, email	Environmental
Crecentia Mofokeng	Builders Workers International	Meeting	Social
Dr Frans Prins	Active Heritage cc	Email	Social
Cecil le Fleur	National KhoiSan Council	Meeting	Social
Philip Owen and colleagues	Geasphere	Workshop	Cross chamber

5. REFERENCES

The following documents were used as a reference and/or as basis for work carried out during the process of transitioning to the FSC Standard for Forest Management

FSC documents:

- ✓ FSC-STD-01-001 *FSC Principles and Criteria for Forest Stewardship*
- ✓ FSC-STD-01-003 *SLIMF Eligibility Criteria*
- ✓ FSC-STD-60-002 *Structure and Content of National Forest Stewardship Standards*
- ✓ FSC-STD-60-004 *International Generic Indicators*
- ✓ FSC-STD-60-006 *Process Requirements for the Development and Maintenance of National Forest Stewardship Standards*
- ✓ FSC-TPT-60-007 *Proposal for the Transfer of Forest Stewardship Standards to the Principles and Criteria Version 5*
- ✓ FSC-TPT-60-008 *Transfer Matrix*
- ✓ FSC-GUI-60-100 *Guidance on the Interpretation of the FSC Principles and Criteria, taking account of the Scale and Intensity of Forest Management*

REFER TO ANNEX 7 FOR A FULL LIST OF REFERENCES USED TO DEVELOP THE STANDARD

6. NOTE ON INTERPRETATION OF INDICATORS

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. Where indicators apply only at a certain scale, this is denoted through the following abbreviations:

LS Large Scale; MS Medium Scale; FF Family Forestry; SLIMFs Small or low intensity managed forests. (refer to section 2.2 above for definitions of scale and ownership categories).

In some cases there are other designations, as follows:
OM: Owner manager. Where medium scale operations have an owner that is also the manager they may have different requirements to demonstrate compliance. Such indicators will be marked as OM.
TA: Traditional Authority. These are communal areas, where land rights are accorded to people by the traditional authorities and where specific legislation is in place to protect communal tenure.

Status of the Verifiers and Guidance: Unless specifically stated, the verifiers and guidance in this standard are not normative (obligatory) and only serve as a guidance for the auditors.

7. PRINCIPLES, CRITERIA AND NATIONAL INDICATORS

PRINCIPLE 1: COMPLIANCE WITH LAWS

The Organization* shall* comply with all applicable laws, regulations and nationally-ratified international treaties, conventions and agreements. (P1 V4)		
Criterion 1.1 The Organization* shall* be a legally defined entity with clear, documented and unchallenged legal registration, with written authorization from the legally competent* authority for specific activities. (C1.1 V4)		
Indicators		**Means of verification**
1.1.1	1.1.1 Legal registration*, granted by a legally competent authority, to carry out all activities within the scope of the certificate is documented and unchallenged.	Registration documents for companies, cooperatives, close corporations or other business entities. **GUIDANCE** In the cases of a sole proprietor legal registration is not required. A sole proprietorship is a business that is owned and operated by a natural person (individual). This is the simplest form of business entity (SARS website http://www.sars.gov.za/ClientSegments/Businesses/SmallBusinesses).
Criterion 1.2 The Organization* shall* demonstrate that the legal status of the Management Unit, including tenure and use rights, and its boundaries, are clearly defined. (C2.1 V4)		
Indicators		**Means of verification**
1.2.1	Legal tenure to manage and use resources within the scope of the certificate is documented.	Title deeds and lease agreements. In Traditional Authority areas individual/family owned plantations planted on individual /family fields or household plots. Informal rights to use this land can be presumed unless there is evidence of: • Ownership disputes or overlapping claims to the land in question • Expansion of plantations into communal grazing land or other land to which other people have informal rights without a rights holders resolution in terms of IPILRA. • Illegal purchase of the land question (e.g. paying of a Khonzo fee).

		GUIDANCE In future, when the forestry development protocols come into effect, any new afforestation will need to show compliance with the suggested protocol: 1. Minutes of a community resolution agreeing to the implementation of forestry projects in the area and confirming the individual household's rights to the land they intend to afforest. 2. Company or Community owned plantations on communal land (traditional authority land) established after 1997. Must show evidence they followed protocols established through IPILRA (refer to the Forestry Development Protocols). A resolution was taken by the rights holders at a general community meeting in the presence of officials from DRDLA. The land rights holders' resolution must reflect the following: • Agreement to proceed with the forestry project. • Identification of land for development. • The nature of the development on the identified land. • The administration and distribution of benefits accruing from the proposed development. • Provisions for compensation or alternative accommodation of land rights holders whose rights are directly affected by the proposed development.
1.2.2	The boundaries of all Management Units* are marked, mapped or described: 1.2.2.1 For title deed land, maps are available indicating the FMU boundaries. 1.2.2.2 Within Traditional Authority lands, in the absence of maps, the boundary is identifiable by infield demarcation (e.g. beacons) or there is recognition of boundaries by traditional leaders, neighbours and other	1.2.2.1 Maps indicating boundaries. 1.2.2.2 Inspect infield markers. Interview members of the community.

	members of the community.	
Criterion 1.3 The Organization* shall have legal rights to operate in the Management Unit*, which fit the legal status of The Organization* and of the Management Unit*, and shall* comply with the associated legal obligations in applicable national and local laws and regulations and administrative requirements. The legal* rights shall provide for harvest of products and/or supply of ecosystem services* from within the Management Unit*. The Organization* shall pay the legally prescribed charges associated with such rights and obligations. (C1.1, 1.2, 1.3 V4)		
Indicators		**Means of verification**
1.3.1	Plantations are established in accordance with; 1) Applicable laws* and regulations and administrative requirements.	While this is not a full legal compliance audit, relevant legal requirements include: • Management and workers understand and comply with all legal requirements relevant to their roles and responsibilities. • All documentation including procedures, work instructions, contracts and agreements meet legal requirements and are respected. • No issues of legal non-compliance are raised by regulatory authorities or other interested parties. The key legal requirement is compliance with the National Water Act (Act No. 36 of 1998) [NWA]. The key provisions of the Act that apply to 1.3 are: The plantation has evidence that it has committed to the DWS licencing and verification process. If not the following applies: 1. The plantation is registered for water use, AND 2. There is a water use license, OR 3. There is a planting permit, OR 4. The plantation was established prior to 1998 in Traditional Authority areas, OR 5. The plantation was established prior to 1972 in all non-Traditional Authority areas.

		6. Plantations established after 1998 have an EIA under the National Environmental Management Act, 1998 (Act No. 107 of 1998). **GUIDANCE** A water use licence issued by the Department of Water and Sanitation (DWS) in terms of the National Water Act is the principal legal requirement to grow timber. There are no legal requirements authorizing the harvesting of plantations. Compulsory licensing is being rolled out gradually per catchment by DWS. Once this process is completed all legitimate plantations will have water use licenses. Note that the EIA would also require an assessment of national heritage resources under the National Heritage Resources Act, (Act No. 25 of 1999). Laws essential to specific criteria will be listed under that criterion. A list of applicable legislation is included in Annex 1. A legal non-compliance will be considered "significant" if: it has been allowed to persist or remain for a period of time that would normally have allowed detection; and/or it is an intentional or a blatant/self-evident disregard for the law. A legal non-compliance will not be considered "significant" if the deviation is short-term, unintentional and without significant damage to the environment or harm to people.
1.3.2	Payment is made in a timely manner* of all applicable legally prescribed charges connected with forest* management.	Acknowledgement of payment from the Department of Water and Sanitation or other indisputable evidence of payment or water use allocation. For plantations under 10 hectares this payment for water use does not apply for Traditional Authority land. See guidance notes for Traditional Authority areas**.

		GUIDANCE The only legally prescribed charges associated with timber plantations is payment for water use. Other laws less directly associated with timber plantations are dealt with elsewhere in the standard. A full list of applicable law and regulations is found in Annex 1. ** This threshold was set because cost of collecting the money for areas smaller than 10 hectares exceeds the revenue gained. In some Traditional Authority areas the Traditional Authority has been registered and sent accounts for payment for water use. In many cases this payment has not been met because individual land-owners in the Traditional Authority are less than 10 hectares and for the Traditional Authority the cost to collect these small amounts of money would also not justify the amounts collected. Non-payment of water-use in these areas should not be considered a non-compliance. In future all water-use licences will be issued to individuals and this issue will not occur.
1.3.3	The area planted is in accordance with authorized water allocation.	The area of timber planted is less or equal to the area that is licensed or was registered. **GUIDANCE** Volume of water allowed is calculated using water use of trees per unit area. Water allocation is per quaternary catchment.
Criterion 1.4 The Organization* shall develop and implement measures, and/or shall engage with regulatory agencies, to systematically protect the Management Unit* from unauthorized or illegal resource use, settlement and other illegal activities. (C1.5 V4)		
Indicators		**Means of verification**
1.4.1	Measures are implemented to provide protection* from, illegal hunting, fishing, trapping, collecting, settlement, timber theft and other unauthorized activities.	Someone is tasked with monitoring of illegal activities. Access control is in place where needed. Where the FMU is on leased land there is agreement between parties on how to control unauthorized or illegal activities.

1.4.2	1.4.2 Where protection* is the legal* responsibility of regulatory bodies, a system is implemented to work with these regulatory bodies to identify, report, control and discourage unauthorized or illegal activities.	Protection is defined by the FSC as “conservation”. On privately owned land this is not the legal responsibility of a regulatory body so this does not apply. There may be instances where on state owned land the regulatory body is responsible for protection (conservation). This indicator is restricted to such cases.
1.4.3	If illegal or unauthorized activities are detected, measures are implemented to address them.	Evidence of measures to follow up on illegal activities, such as reporting them to the police, improving security, raising awareness amongst forest guards and other workers.
Criterion 1.5 The Organization* shall comply with the applicable national laws*, local laws, ratified international conventions and obligatory codes of practice, relating to the transportation and trade of forest products within and from the Management Unit*, and/or up to the point of first sale. (C1.1, 1.3)		
CITES provisions are not relevant to the cultivation and sale of the species that are used in South African plantation forestry. There are requirements under NEMBA (Invasive alien species regulations) that refer to trade and transport of alien plants but plantation species are exempt from these regulations.		
Indicators		**Means of Verification**
1.5.1	Compliance with applicable national laws*, local laws*, ratified* international conventions and obligatory codes of practice* relating to the transportation and trade of forest products up to the point of first sale is demonstrated.	MS and LS: There are no substantiated outstanding claims of non-compliance related to timber transport and trade. There is system to prevent overloading of trucks transporting timber. SLIMF and OM: Interview on how overloading is prevented. **GUIDANCE** The most significant issue in forestry is overloading. The organization must be able to demonstrate that it has an effective way to preventing overloading.
1.5.2	Compliance with CITES provisions is demonstrated, including through possession of certificates for harvest and trade in any CITES species.	The organization does not trade in CITES species. **GUIDANCE:** CITES provisions are not relevant to the cultivation and sale of the species that are used in South African plantation forestry. Plantations are exempt

		from the requirements under NEMBA (Invasive alien species regulations) which refer to trade and transport of alien plants there is a remote possibility that the organization might trade in CITES species.
Criterion 1.6 The Organization* shall identify, prevent and resolve disputes over issues of statutory or customary law, which can be settled out of court in a timely manner, through engagement with affected stakeholders. (C2.3 V4)		
Indicators		**Means of verification**
1.6.1	The organization actively engages with affected stakeholders to identify, prevent and resolve disputes over issues of statutory or customary law in a timely manner using locally accepted mechanisms and/or institutions.	MS and LS: Documented, current evidence that the organization engages with affected stakeholders. SLIMF and OM: Verbal testimony that can be verified by contacting stakeholders. Records of meetings held to deal with substantial issues. Community members in Traditional Authority areas work through the Traditional Authorities.
1.6.2	In any case of a dispute relating to tenure claims or use rights the organization shall attempt to resolve the dispute using locally accepted mechanisms and/or institutions.	Evidence of steps that have been taken by the organization to identify land claims on the FMU. Records of location and status of claims, boundary or use rights disputes. Register of any disputes about rights, entitlements and access and use by local communities with legal or customary rights. Records of disputes over management agreements. Evidence of cooperation and dispute resolution activities. **GUIDANCE** For large organizations documented procedures are available that allow for a process that could generally be regarded as open and acceptable to all parties with an objective of achieving agreement and consent through fair consultation. Procedures should allow for impartial facilitation and culturally appropriate mechanisms for resolution. Relevant legislation includes:

		Extension of Security of Tenure Act (Act 67of 1997) and the interim Protection of Informal Land Rights Act (Act 31 of 1996); Land Reform Act (Act 3 of 1996); Restitution of Land Rights Act (Act 22 of 1994).
1.6.3	The forest enterprise shall maintain an up-to-date and complete record of all disputes relating to tenure claims and use rights, including evidence relating to the dispute and a clear description of any steps taken to resolve the dispute.	Records of disputes relating to land claims and any other land use rights issues.
1.6.4	Operations cease in areas where disputes* exist: 1) Of substantial magnitude*; or 2) Of substantial duration*; or 3) Involving a significant* number of interests, and if the continuation of management activities within the dispute areas would cause significant negative impacts on environment and/or people.	Evidence of dispute resolution process
Criterion 1.7 The Organization* shall* publicize a commitment not to offer or receive bribes in money or any other form of corruption, and shall comply with anti-corruption legislation where this exists. In the absence of anti-corruption legislation, The Organization* shall* implement other anti-corruption measures proportionate to the scale* and intensity* of management activities and the risk* of corruption. (New)		
According to GAN (2017) South Africa suffers from widespread corruption, despite it performing better than regional averages across a number of key measurements. SA has a robust anti-corruption framework, but laws are inadequately enforced. Public procurement is particularly prone to corruption. The Prevention and Combating of Corruption Act (PCCA) criminalizes corruption in the public and private sectors, including attempted corruption, extortion, active and passive bribery, bribing a foreign public official, fraud and money laundering, and it obliges public officials to report corrupt activities. However, in the sectors linked directly to plantation forestry corruption is not a significant risk. Most relevant to plantation forestry are; the Land Administration Sector, where property rights are explicitly guaranteed by the Constitution and respected in practice (BTI 2014). In the area of		

Natural Resources management mining operations in South Africa are particularly vulnerable to corruption and illegal activities (Bloomberg, J. 2015), but no mention of forestry is made in corruption reports. In summary, corruption is not generally thought to be a significant risk in plantation management in South Africa.		
Indicators		**Means of verification**
1.7.1	A policy that meets or exceeds related legislation is implemented that includes a commitment not to offer or receive bribes of any description.	Written policy that is communicated throughout the organization. Group schemes: Such a policy can form part of the group scheme documentation. **GUIDANCE** The policy must be available on request and can form part of the publicly available summary of the management plan.
1.7.2	Only for MS and LS: The policy is publicly available* at no cost.	MS and LS: Policy is available on a public platform such as a web site or broadly distributed publication.
1.7.3	Corrective measures are implemented if corruption does occur.	Evidence of action taken in response to cases of corruption.
Criterion 1.8 The Organization* shall* demonstrate a long-term commitment to adhere to the FSC Principles* and Criteria* in the Management Unit*, and to related FSC Policies and Standards. A statement of this commitment shall be contained in a publicly available document made freely available. (C1.6)		
Indicators		**Means of verification**
1.8.1	A written policy, endorsed by an individual with authority to implement the policy, includes a long-term* commitment to forest* management practices consistent with FSC Principles* and Criteria* and related Policies and Standards.	Policy conforms to requirements. Group schemes: Policy forms part of the agreement between the group manager and forest manager.

1.8.2	The policy is publicly available* at no cost.	The policy is available on request and can form part of the publicly available summary of the management plan.

PRINCIPLE 2: WORKERS' RIGHTS AND EMPLOYMENT CONDITIONS

The Organization* shall* maintain or enhance the social and economic wellbeing of Workers*. (new)		
According to the Hermes Country Report (2016) for South Africa the country's key economic risk factors are unemployment, rural poverty, inequality, disease and a track record of labour militancy and weak educational standards. The standard should ensure that certified organizations do not contribute to exacerbating these risk factors. The tension between improved wages, improved working conditions and the increasing cost of labour and promoting outsourcing and mechanization has to be managed.		
Criterion 2.1 The Organization* shall* uphold* the principles and rights at work as defined in the ILO Declaration on Fundamental Principles and Rights at Work (1998) based on the eight ILO Core Labour Conventions. (C4.3 P&C V4)		
South African labour law covers all ILO Core Conventions and Labour standards. Compliance with the Basic Conditions of Employment Act (75 of 1997) and the Employment Equity Act (No. 55 of 1998) and Labour Relations Act (Act No. 66 of 1995) would ensure compliance with all ILO core conventions. Generally, the level of compliance with labour law amongst employers in the formal sector is high. Indicators cover the four fundamental principles and rights at work as reflected in the ILO Core Conventions.		
Indicators		**Means of verification**
2.1.1	The Organization* shall not use child labour.	Documents • Pay records • Records of labour inspectorate • Employer Records (Age Register), identity documents such as copies of birth certificates or national ID cards • Risk Assessment & Hazardous Substance Assessment • Employment Policy/ Procedures • Local/ national law* • Findings of employment surveys • School records and social workers*

	2.1.1.1	The Organization* shall not employ workers* below the age of 15, or below the minimum age* as stated under national, or local laws or regulations, whichever age is higher, except as specified in 1.1.2.	Interviews • Sample of workers* • Representatives of workers* and unions • School authorities and social workers* • Representatives of employer Observations Family forestry: field inspections and interviews with managers. In family forestry* there may be children assisting parents in the school holidays or on weekends but this does not constitute formal employment.
	2.1.1.2	In countries where the national law* or regulations permit the employment of persons between the ages of 13 to 15 years in light work* such employment should not interfere with schooling nor, be harmful to their health or development. Notably, where children are subject to compulsory education laws, they shall work only outside of school hours during normal day-time working hours.	
	2.1.1.3	No person under the age of 18 is employed in hazardous* or heavy work* except for the purpose of training within approved national laws* and regulation.	
	2.1.1.4	The Organization* shall prohibit worst forms of child labour*.	

2.1.2	The Organization* shall eliminate all forms of forced and compulsory labour.		Documents • Pay records • Records of labour inspectorate • Employment contracts • Statutory deductions (tax, social security) • National / industry pay standards (for comparison) • Dispute and grievance records • Records of licensed recruitment agencies • Work Agreements Interviews • Sample of workers* • Representatives of workers* and unions • Social workers* and NGOs • Supervisors • Representatives of employer Observations • Visit to camps/ housing sites
	2.1.2.1	Employment relationships are voluntary and based on mutual consent, without threat of a penalty.	
	2.1.2.2	There is no evidence of any practices indicative of forced or compulsory labour, including, but not limited to, the following: • physical and sexual violence • bonded labour • withholding of wages /including payment of employment fees and or payment of deposit to commence employment • restriction of mobility/movement • retention of passport and identity documents • threats of denunciation to the authorities.	
2.1.3	The Organization* shall ensure that there is no discrimination in employment and occupation.		Documents • Pay records • Records of labour inspectorate • Adverts • Job application records
	2.1.3.1	Employment and occupation* practices are non-discriminatory.	

			• Grievances/ complaints register • Job evaluation (appraisals) • Affirmative action* program • Policies and procedures • Employment demographic/ gender ratio in job types • Discriminatory reports/ Social responsibility reports • Interviews • Representatives of employer • Sample of workers* • Representatives of workers* and unions Observations • Welfare facilities for men and women
2.1.4	The Organization* shall respect freedom of association and the right to collective bargaining.		Documents • Organizational policies • Complaints register • Collective agreements • Minutes of bilateral meetings • Minister of labour/ Industrial Relations reports • Court reports/ awards Interviews • Workers* & trade union representatives • Human Resource personnel • Representatives of employer Observations
	2.1.4.1	Workers* are able to establish or join worker organizations* of their own choosing.	
	2.1.4.2	The Organization* respects the full freedom of workers' organizations* to draw up their constitutions and rules.	
	2.1.4.3	The Organization* respects the rights of workers to engage in lawful activities related to forming, joining or assisting a workers' organization*, or to refrain from doing the same; and will not discriminate or punish workers for exercising these rights.	
	2.1.4.4	The Organization* negotiates with lawfully established workers' organizations* and/ or duly selected representatives in good faith*	

		and with the best efforts to reach a collective bargaining* agreement.	
	2.1.4.5	Collective bargaining* agreements are implemented where they exist.	
Criterion 2.2 The Organization* shall* promote gender equality* in employment practices, training opportunities, awarding of contracts, processes of engagement* and management activities. (new)			
All requirements of the criterion are supported through the Employment Equity Act (Act No. 55, 1998) and the Basic Conditions of Employment Act (Act No. 75 of 1997). These Acts protect against all forms of unfair discrimination in the work place (race, gender, sex, pregnancy, marital status, family responsibility, ethnic or social origin, colour, sexual orientation, age, disability, religion, HIV status, conscience, belief, political opinion, culture, language and birth).			
2.2.1	Systems are implemented that promote gender equality* and prevent gender discrimination in employment practices, training opportunities, awarding of contracts, processes of engagement* and management activities.	Records (e.g. outsourcing criteria; employment criteria; evidence of employment, job advertisements, etc.). Stakeholder consultation.	
2.2.2	Job opportunities are open to both women and men under the same conditions and women are encouraged to apply for jobs at all levels of employment.	Records (e.g. outsourcing criteria; employment criteria; evidence of employment, job advertisements, etc.). Stakeholder consultation.	
2.2.3	Work typically carried out by women (nurseries, silviculture, Non Timber Forest Product harvesting, weighing, packing, etc.) is included in training and health & safety programs to the same extent as work typically carried out by men.	Training records.	
2.2.4	Women and men are paid the same wage when they do the same work.	Payment records, payslips and contracts.	

2.2.4	Maternity leave is no less than a six-week period after childbirth.	Contracts. Interviews with labour.
2.2.5	Paternity leave is available and there is no penalty for taking it.	In accordance with section 27 of the BCEA, workers with at least 4 months of service are entitled to fully paid family responsibility leave of 3 days during each annual leave cycle (12 months). Family responsibilities include the birth of a child, among other family events. Upon the request of the employer, a worker must provide reasonable proof of the event necessitating family responsibility leave. In other words, if the employee's child is born, a birth certificate and proof of paternity should be provided to the employer.
2.2.6	Confidential and effective mechanisms exist for reporting and eliminating cases of sexual harassment and discrimination based on race, gender, sex, pregnancy, marital status, family responsibility, ethnic or social origin, colour, sexual orientation, age, disability, religion, HIV status, conscience, belief, political opinion, culture, language and birth.	Records of consultation. Interviews with workers.
2.2.8	Meetings, management committees and decision-making forums are organized to include women and men, and to facilitate the active participation of both.	Minutes or records of meetings. **GUIDANCE** Where women are employed in the appropriate positions they are included in decision making structures.

Criterion 2.3 The Organization* shall* implement health and safety practices to protect workers* from occupational safety and health hazards. These practices shall*, proportionate to scale, intensity and risk* of management activities, meet or exceed the recommendations of the ILO Code of Practice on Safety and Health in Forestry Work. (C4.2 P&C V4)		
Indicators		**Means of verification**
2.3.1	Health and safety practices are developed and implemented that meet or exceed the ILO Code of Practice on Safety and Health in Forestry Work.	The requirements of the ILO Code of Practice are contained in the Occupational Health and Safety Act (No. 85 of 1993). The key requirements are grouped in the indicators below which follow the process of developing a legally compliant and fully functional health and safety system.
2.3.2	Hazards to the health and safety of workers from forestry activities have been identified.	MS and LS: A hazard identification and risk assessment is available for each site and operation. SLIMF and OM: The manager is able to explain what their greatest hazards and risks are. Group schemes: The hazard identification and risk assessment can form part of the group management documentation.
2.3.3	There are procedures for working safely.	MS and LS: Based on the risk assessment required in 2.3.1, documented safe operating procedures must be available for all operations. Group schemes: These procedures could form part of the group management system. **GUIDANCE** Such procedures should include *inter alia* tool use, Personal Protective Equipment, communication and warning systems.
2.3.4	Workers are aware of hazards in the workplace and are trained on safe work procedures in compliance with the national legislation.	Compliance with the Occupational Health and Safety Act (No. 85 of 1993). **GUIDANCE** The following are key requirements of the OHS Act: -Displayed copy of company Health and Safety Policy. -Copy of Occupational Health and Safety Act. -There must be at least one person with a valid first aid certificate at all

		hazardous operations. -Chainsaw operators have a valid chainsaw operator's certificate. -A health and safety representative appointed where there are more than twenty employees and thereafter one representative must be appointed for every 50 employees. This means that for 20-50 = 1 safety rep; 51-100= 2 safety reps; 101-150=3 safety reps, and so on. Appointments must be kept on file. -H& S committee where there are two or more representatives. -Health and safety representatives to conduct inspections of their workplaces prior to every Health & Safety meeting, using a checklist. -employees trained on safety procedures, along with contracted contractors. -Safety talks conducted when necessary and records must be kept on file.
2.3.5	Workers have personal protective equipment appropriate to their assigned tasks.	Where the risk assessment required in 2.3.1 has identified the need, PPE is used by workers on the relevant tasks. Evidence that PPE has been issued to workers. Evidence of PPE being correctly used. **GUIDANCE** For each task there should be minimum PPE requirements listed.
2.3.6	Workers shall be prohibited from working without PPE that has been provided.	Inspections of work place.
2.3.7	Safe work procedures are carried out in the work place.	Inspections of work place. **GUIDANCE** Safe work procedures should include the following: -adequate supervision to ensure that work is conducted safely. -a trained first aider on site at all hazardous operations. (e.g. harvesting, spraying). -First aid kits and fire-fighting equipment must be available and accessible.

		These must be available on site, during the implementation of any hazardous operation. - A system to restock first aid boxes. -protective clothing is worn and is in a condition so as to protect the labourer against injuries as intended. -specific safe work procedures for each hazardous task which are too numerous to specify.
2.3.8	LS only: Incidence of non-conformance with procedures are investigated, recorded and reported.	LS: Documented evidence of inspections. **GUIDANCE** The emphasis of these inspections is on prevention.
2.3.9	Past incidents are recorded, trends examined and safety practices adjusted to avoid recurrence.	MS and LS: Documented evidence of accident/injury investigations. Records of minor injuries in order to identify trends and causes and to establish the effectiveness of training and personal protective clothing. Examine safety statistics. Evidence for adjustments in safety measures to address causes. SLIMF and OM: Are able to describe the measures taken to improve safety performance based on previous incidents. **GUIDANCE** For injury investigations an Annexure 1 form is required to be completed. (Occupational Health and Safety Act (No. 85 of 1993).
2.3.10	Where worker accommodation is provided on the FMU, it complies with the minimum requirements outlined in Annex 5.	Inspection of workers accommodation. Examination of housing improvement plans if required. **GUIDANCE** Refer to Annex 5

Criterion 2.4 The Organization* shall* pay wages that meet or exceed minimum forest* industry standards or other recognized forest* industry wage agreements or living wages*, where these are higher than the legal* minimum wages. When none of these exist, The Organization* shall* through engagement* with Workers* develop mechanisms for determining living wages*. (new)		
The Basic Conditions of Employment Act (No. 75 of 1997) makes provision for minimum wages in sectors not protected by labour unions. Sectoral Determination 12 Forestry Worker Sector (SD 12) came into effect in 2002 and provides for minimum wages and working conditions for Forestry Workers. It applies to all employers and workers in the Forestry Sector in South Africa including: commercial and emergent timber managers; all transportation within the sector; contractors; and domestic workers employed on premises where forestry activities take place including security guards who are not with the private security sector. This determination does not apply to mixed farming activities; community forestry employers and workers; forestry conservation employers; any person involved in forestry activities covered by another sectoral determination or by a bargaining council agreement in terms of the Labour Relations Act, 1995 (Taken from SD 12). The Basic Conditions of Employment Act applies in respect of any matter not covered by this sectoral determination.		
Indicators		**Means of verification**
2.4.1	Wages shall comply with national legislation.	Pay slips. **GUIDANCE** Sectoral Determination 12 Forestry Worker Sector (SD 12) is revised annually and determines the obligatory minimum wage on an hourly, weekly and monthly basis. It is possible to apply to the Department of Labour for exemption from minimum wage based on affordability of the business. The statutory minimum hourly rate must be paid according to hours worked and irrespective of completion of task.
2.4.2	Wages, salaries and contracts are paid on time.	Pay slips. Interviews with workers and Unions.

Criterion 2.5 The Organization* shall* demonstrate that Workers* have job-specific training and supervision to safely and effectively implement the Management Plan* and all management activities. (C7.3 P&C V4)		
South African forestry is characterized by high skill levels from management through to workers and training is emphasized. Training is incentivized through the Skills Development Act (Act 97 of 1998). This Act provides for the financing of skills development by means of a levy-grant scheme and a National Skills Fund.		
Indicators		**Means of verification**
2.5.1	Workers* have job specific training consistent with Annex 7 to safely and effectively contribute to the implementation of the management plan* and all management activities.	Training records and training plan. As a minimum, all legally required machine or vehicle licenses, first aiders and chainsaw operators must have skills certificates. **GUIDANCE** Organizations are required by law to pay into the skills development fund and this is unavoidable for registered tax payers as it forms part of the tax return. Skills Development Act (No. 97 of 1998).
2.5.2	Workers* are supervised to ensure they implement their tasks safely and effectively.	Work place inspection. Interview supervisors and workers.
2.5.3	Up to date training records are kept for all workers*.	Training records. Skills certificates.
Criterion 2.6 The Organization* through engagement* with Workers* shall* have mechanisms for resolving grievances and for providing fair compensation* to Workers* for loss or damage to property, occupational diseases*, or occupational injuries* sustained while working for The Organization*.		
Indicators		**Means of verification**
2.6.1	A dispute* resolution process is in place, developed through culturally appropriate* engagement* with workers*.	Interview workers. Evidence that workers were engaged in formulating the dispute resolution process.

		MS and LS: There is a documented dispute resolution mechanism. SLIMF and OM: There is a common understanding between managers and workers regarding what to do in case of a dispute.
2.6.2	Workers* grievances are identified and responded to and are either resolved or are in the dispute* resolution process.	Interviews with workers.
2.6.3	Up-to-date records of workers* grievances related to workers* loss or damage of property, occupational diseases* or injuries are maintained including: 1) Steps taken to resolve grievances; 2) Outcomes of all dispute* resolution processes including fair compensation*; and 3) Unresolved disputes*, the reasons they are not resolved, and how they will be resolved.	Examination of grievance records.
2.6.4	Fair compensation* is provided to Workers* for work-related loss or damage of property and occupational disease* or injuries.	Compliance with the Compensation for Occupational Injuries and Diseases Act (No. 130 of 1993). Examination of records and interviews with workers. **GUIDANCE** Organizations are required to register with and make payments to the Compensation Fund. They are then entitled to claim against the fund for medical costs and other compensation related to occupational injury and disease.

PRINCIPLE 3: INDIGENOUS PEOPLE'S RIGHTS

The Organization* shall* identify and uphold* indigenous peoples'*legal* and customary rights* of ownership, use and management of land, territories* and resources affected by management activities. (P3 P&C V4)
Guidance: The KhoeSan are recognised as the Indigenous People of South Africa. Groups of hunter gatherer San, and pastoralist Khoekhoe were decimated through state sanctioned killing, introduced diseases and starvation after European settlement in 1652 and onwards. Survivors and their descendants were forced to renounce their culture and assimilate into other ethnic groups by colonial and apartheid regimes. Since 1994 there has been a revivalist movement of people claiming KhoeSan heritage and decent. The total population of contemporary groups who self-identify as KhoeSan is estimated to be about 300,000 individuals, 1% of the national population (ILO, 1999). Of these, the majority live in arid areas of the country unsuitable for forest plantations. The main San groups are the Khwe and !Xu who reside mainly in Platfontein near Kimberley, and the ǂKhomani San in the Kalahari. The only surviving San within parts of the country suitable for forestry are descendants of the Drakensberg San, famous for the rock paintings made by their ancestors up until the middle of the last century. Their original language is extinct. Today these comprise small pockets of //Xegwi San living on farms in Mpumalanga Province near Lakes Banager and Chrissie and around the towns of Lothair and Carolina. Their numbers are not known, though estimates run between 30 and 100 adults. In addition, individuals who claim San descent live amongst Xhosa speaking communities in the Drakensberg mountain regions of both Kwa-Zulu Natal and Eastern Cape (so called 'Secret San', Prins 2009). Khoekhoe groups comprise the Nama, Koranna, Griqua and a number of smaller 'revivalist' groups who claim a Khoekhoe heritage. Nama, Koranna and some Griqua communities reside outside of forestry areas in the Northern Cape and Free State. A small number of Griqua communities and other small groups or 'tribes' that self-identify as 'KhoiSan' (the Gamtkwa, Gamtabakwa Khoi) live in certain areas surrounding forestry land in the Western and Eastern Cape. South Africa has a robust Constitution protecting all citizens, as well as legislation and policies aimed at redressing the legacy of centuries of land dispossession and discrimination against all black South Africans, including first nations people. **To separate KhoeSan from other previously disadvantaged groups into a principle on their own is complex given the history of South Africa and risks entrenching and promoting ethnic identities. It is not in the interests of social cohesion and nation building in South Africa. For these reasons, P3**

indicators are combined with the equivalent under Principle 4, providing protection for indigenous peoples' rights alongside those of others in local communities that are impacted upon and benefit from forestry activities. ***Further detail is provided under each of the Principle 3 criteria below.***
Criterion 3.1 "The Organization* shall* identify the Indigenous Peoples* that exist within the Management Unit* or those that are affected by management activities. The Organization* shall* then, through engagement* with these Indigenous Peoples, identify their rights of tenure*, their rights of access to and use of forest* resources and ecosystem services*, their customary rights* and legal* rights and obligations, that apply within the Management Unit*. The Organization* shall* also identify areas where these rights are contested.
These requirements have been merged with those under 4.1
Criterion 3.2 The Organization* shall* recognize and uphold* the legal* and customary rights* of Indigenous Peoples* to maintain control over management activities within or related to the Management Unit* to the extent necessary to protect their rights, resources and lands and territories*. Delegation by Indigenous Peoples of control over management activities to third parties requires Free, Prior and Informed Consent*
Legal and customary rights of indigenous people in South Africa have been lost over centuries of displacement and assimilation into dominant ethnic groups. Small remnant communities may retain interests in cultural sites and resources. Access to these should be negotiated and enabled, without compromising sustainable forest management. Indicators under 3.2 are merged with those under 4.2.
Criterion 3.3 In the event of delegation of control over management activities, a binding agreement* between The Organization* and the Indigenous Peoples* shall* be concluded through Free, Prior and Informed Consent*. The agreement shall* define its duration, provisions for renegotiation, renewal, termination, economic conditions and other terms and conditions. The agreement shall* make provision for monitoring by Indigenous Peoples of The Organization*'s compliance with its terms and conditions. (new)
This criterion has limited if any application in South Africa. It applies only to plantations on communal land, lease-back agreements or co-management agreements on restituted forestry land. In these cases there is an existing legal and institutional framework protecting rights holders and providing for free, prior and informed consent by the rights holders. Indigenous people may form part of such communities, and if so, they will be protected through this legislation and through indicators under 4.2.
Criterion 3.4 The Organization* shall* recognize and uphold* the rights, customs and culture of Indigenous Peoples* as defined in the United Nations Declaration on the Rights of Indigenous Peoples (2007) and ILO Convention 169 (1989).

This criterion refers to the articles in UNDRIP and ILO Convention 169 that protect the rights, customs, culture and spiritual beliefs of indigenous people affected by the management unit. Indicators under 4.2 and 4.7 adequately provide for protection of the distinct and special needs and aspirations of indigenous people in forestry plantations
Criterion 3.5 The Organization*, through engagement* with Indigenous Peoples*, shall* identify sites which are of special cultural, ecological, economic, religious or spiritual significance and for which these Indigenous Peoples hold legal* or customary rights*. These sites shall* be recognized by The Organization* and their management, and/or protection* shall* be agreed through engagement* with these Indigenous Peoples.
This requirement is deemed to be met through compliance with 4.7.
Criterion 3.6 The Organization* shall* uphold* the right of Indigenous Peoples* to protect* and utilize their traditional knowledge* and shall* compensate local communities* for the utilization of such knowledge and their intellectual property*. A binding agreement* as per Criterion* 3.3 shall* be concluded between The Organization* and the Indigenous Peoples for such utilization through Free, Prior and Informed Consent* before utilization takes place, and shall* be consistent with the protection* of intellectual property* rights.
Indigenous people in South Africa have a rich heritage of traditional knowledge, and there have been several cases where the courts have ordered compensation to be paid to indigenous people for the commercial use of such knowledge (e.g. Hoodia, Rooibos tea). Traditional knowledge has limited application in a plantation forestry context, see 4.8.

PRINCIPLE 4: COMMUNITY RELATIONS

The Organization* shall* contribute to maintaining or enhancing the social and economic wellbeing of local communities*. (P4 P&C V4)		
Emerging from its colonial and apartheid history, South Africa faces an important challenge to build relationships between diverse communities, including indigenous people where they are present, and to address a legacy of structural poverty and inequality. As a rural-based industry, forestry has a key role to play in these endeavours. In light of this, the organization needs to appreciate that it is a part of the broader community and must be recognized as such by other members of the community. Steps towards this goal: 1. Get to know neighbours and other stakeholders, using social assessment principles and procedures to ensure that marginalised individuals and groups, such as those previously disadvantaged, women and indigenous people, are included 2. Develop an understanding of the roles and responsibilities of members of the community. 3. Build trust within the community through recognizing common interests. 4. Build a relationship through ongoing communication and active support.		
Criterion 4.1 The Organization* shall* identify the local communities* that exist within the Management Unit* and those that are affected by management activities. The Organization* shall* then, through engagement* with these local communities*, identify their rights of tenure*, their rights of access to and use of forest* resources and ecosystem services*, their customary rights* and legal* rights and obligations, that apply within the Management Unit*. (new)		
Indicators		**Means of verification**
4.1.1	The forest manager is familiar* with the members of the broader community* including those within the management unit and those that are affected by management activities.	All operations: Stakeholder lists including neighbours [See 7.6.1]. MS and LS: Map showing location of resident communities, neighbours and nearby settlements. SLIMF and OM: Verbal description of who their neighbours are. Interviews with responsible staff to assess knowledge of residents and neighbouring communities. Interviews with stakeholders. The indicator is aimed at determining if there is a relationship between the organisation and the community. The word familiar indicates a mutual

		recognition and understanding. Outline of potential risks and opportunities. **GUIDANCE** Where indigenous people are known to exist or self-identify, the Organisation* shall consult them and get to know them as a distinct group or distinct individuals, as with other members of and groups within the broader community.
4.1.2	The organization understands and protects the rights of local communities. The following rights and obligations are documented and/or mapped: 1) Legal* rights of tenure* and access (ESTA, LTA, IPILRA) of those living within the FMU, and obligations associated with these rights. 2) Servitudes and other legal* access rights of non-residents. 3) Legal and Customary* rights* of tenure and access where the FMU is on Tribal Authority land, or where indigenous people live. 4) Land claims lodged to the FMU and the status of these.	List of resident households on the FMU and their tenure and use rights. Access rights and agreements with surrounding communities and other users. Record of land claims and their status. The Constitution guarantees the securing of customary land rights and restitution of land rights lost as a result of racially discriminatory laws and actions in the past. On private property and State Forest land, only tenants and other occupiers have legally recognised tenure rights, in terms of a lease, or legislation that protects the tenure and use rights of occupants (ESTA, LTA, IPILRA). Communities can acquire tenure rights through the land claims process, but these have no legal standing until the claim is settled through an order of the Land Claims Court (section 35(1) of the Restitution of Land Rights Act, 1994). Precedents have been set for indigenous peoples' claims for rights and recognition in relation to land and this may occur in forestry areas in the future. On State Forest land the National Forest Act gives everyone reasonable right of access to State Forests for recreational, cultural, spiritual and educational purposes, including local communities. 1) Organisations* leasing state forests are required in terms of the lease agreement to provide access and use rights to local communities where reasonable. On communal land under the control of Traditional Authorities, customary rights pertain and are legally vested

		through IPILRA (Interim Protection of Informal Land Rights Act, 1996 (Act No. 31 of 1996). This is an interim measure until comprehensive legislation is in place to upgrade tenure rights in communal lands. Where indigenous people are known to exist or self-identify, special attention needs to be paid to ensuring they participate in decision making and are consulted on matters pertaining to their history, identity, culture, customs, livelihoods and development (for reference see ILO, 2009. Country Report of the Research Project by the International Labour Organization and the African Commission on Human and Peoples' Rights on the constitutional and legislative protection of the rights of indigenous peoples: South Africa and UNDRIP, 2007 and ILO Convention 169).
4.1.3	There is an understanding of the resource requirements and other needs within the community.	Interviews with Managers. Interviews with community members. **GUIDANCE** A key ingredient of a harmonious community is a mutual understanding and respect for the various resource needs that exist in the landscape. There may be a need for employment, water, grazing, wood on the part of the local people while plantation managers need to prevent fire, and maintain infrastructure. A number of these interests overlap, for example, protection of water resources and grazing. It is through a mutual understanding of these factors that the foundation for harmony can be built.

Criterion 4.2 The Organization* shall* recognize and uphold* the legal* and customary rights* of local communities* to maintain control over management activities within or related to the Management Unit* to the extent necessary to protect their rights, resources, lands and territories*. Delegation by local communities* of control over management activities to third parties requires Free, Prior and Informed Consent*. (C2.2 P&C V4)		
The Constitution guarantees the protection and upgrading of tenure, access and use rights of local communities (see 4.1). These rights are relevant in the following situations: plantations on communal land, lease-back agreements or co-management agreements on restituted forestry land. There are laws in place protecting rights holders and providing for free, prior and informed consent by the rights holders (Land Restitution Act, IPILRA, LTA, ESTA).		
Indicators		**Means of verification**
4.2.1	All rights of tenure and access are respected.	Records / documentation / maps of all relevant tenure and access rights for local communities on the Management Unit. Records of disputes. MS and LS: Causes and nature of disputes are monitored. **GUIDANCE** 1. Disputes related to Land Restitution, ESTA, LTA and IPILRA are addressed through the mechanisms provided for in law. 2. Free, prior and informed consent* is granted by beneficiaries to the terms of any partnership agreement reached with the organisation through a process that follows the land restitution framework. A binding agreement is in place containing the duration, provisions for renegotiation, renewal, termination, economic conditions and other terms and conditions. 3. A structure with beneficiary representation is in place to oversee management activities on beneficiary owned plantation land. 4. This structure holds regular meetings and issues raised by members are addressed satisfactorily.

4.2.2	The legal* and customary rights* of local communities* to maintain control over management activities are not violated by The Organization*.	Documentation, contracts and agreements.
4.2.3	Where evidence exists that legal* and customary rights* of local communities* related to management activities have been violated the situation is corrected, if necessary, through culturally appropriate* engagement* and/or through the dispute* resolution process in Criteria* 1.6 or 4.6.	Documentation, contracts and agreements. Records of disputes and resolutions.
4.2.4	Free, prior and informed consent* is granted by local communities* prior to management activities that affect their identified rights through a process that includes: 1) Ensuring local communities* know their rights and obligations regarding the resource; 2) Informing the local communities* of the value, in economic, social and environmental terms, of the resource over which they are considering delegation of control; 3) Informing the local communities* of their right to withhold or modify consent to the proposed management activities to the extent necessary to protect their rights and resources; and 4) Informing the local communities* of the current and future planned forest* management activities.	Contracts and lease agreements. Evidence of consultation.
Criterion 4.3 The Organization* shall* provide reasonable* opportunities for employment, training and other services to local communities*, contractors and suppliers proportionate to scale* and intensity* of its management activities. (C4.1 P&C V4)		
According to the Hermes Country Report for South Africa the key economic risk factors are unemployment, rural poverty, inequality, disease, a track record of labour militancy and weak educational standards. The plantation industry, by virtue of its location, and in the spirit of the approach		

outlined under P4 above, has a key responsibility to provide livelihood opportunities and other support to address these risks, in proportion to their means.		
Indicators		**Means of verification**
4.3.1	The organizations employment policy is responsive to the local* socio-economic and political context.	Policies of the organisation take account of the local* socio-economic and political context in which they operate. Managers demonstrate awareness of the socio-economic and political context in South Africa. **GUIDANCE** Aspects of the socio-economic and political context include: -Levels of local poverty - inequality and social exclusion/marginalisation -Availability of willing labour -Unemployment rates -Levels of education -Other pressing social needs Aspects of the employment policy that are relevant in this case include: -Use of manual labour -Use of machines -Use of contractors -Availability of alternative employment on and off the FMU This must be discussed in relation to other programmes to alleviate the key economic risk factors (These could be covered in 4.4.).
4.3.2	Reasonable* opportunities are communicated and provided to local communities*, local contractors and local suppliers for: 1) Employment, 2) Training, and 3) Other services.	Recruitment policies of the organization. Training programmes run by the organization in local communities.

Criterion 4.4 The Organization* shall* implement additional activities, through engagement* with local communities*, that contribute to their social and economic development, proportionate to the scale*, intensity* and socio-economic impact of its management activities. (C4.4 P&C V4)		
The approach outlined under P4 requires an active involvement by the forestry organisation in local communities, with the organisation seeing itself as being part of the community. There is need to shift away from ad-hoc hand-out type interventions to genuine engagement and partnership in local development. Contributions should be in proportion to the capability of the organisation to respond, with an emphasis on partnerships. The need to maintain communication with local communities is applicable at all scales. From this dialogue, development challenges will emerge, and the organisation should respond to these, in relation to their capacity. The key aspect will be to demonstrate commitment to supporting locally driven socio-economic development.		
Indicators		**Means of verification**
4.4.1	Opportunities for local social and economic development are identified through engagement* with local communities* and other relevant organizations.	Community engagement reports and development plans. Interviews with community leaders. MS and LS: Show documented evidence of engagement. **GUIDANCE** Refer to context to 4.4.
4.4.2	Projects and additional activities are implemented and / or supported that contribute to local social and economic development.	Evidence of implementation of social programmes. MS and LS: Progress is monitored. Interviews with representatives from local communities. Interviews with forest managers. **GUIDANCE** Provision of decent employment contributes to local social and economic development and this should be taken into consideration when evaluating the additional activities or projects. The exact nature of the project should depend on the outcome of the joint needs analysis. The goal is for the broader community to work together for the common good. Refer to context to 4.4.

Criterion 4.5 The Organization*, through engagement* with local communities*, shall* take action to identify, avoid and mitigate significant* negative social, environmental and economic impacts of its management activities on affected communities. The action taken shall* be proportionate to the scale, intensity and risk* of those activities and negative impacts. (C4.4 P&C V4)		
Indicators		**Means of verification**
4.5.1	Through regular culturally appropriate engagement* with local communities* factors that impact on local communities are identified.	Assessment of impacts of operations on members of the community. Measures to avoid and mitigate negative impacts. Interviews with affected local communities. MS and LS: These assessments are documented. Monitoring of the measures taken, is documented. Where factors are detrimental, ways of alleviating the impact are sought and where they are beneficial they are encouraged.
Criterion 4.6 The Organization*, through engagement* with local communities*, shall* have mechanisms for resolving grievances and providing fair compensation* to local communities* and individuals with regard to the impacts of management activities of The Organization*. (C4.5 P&CV4)		
African concepts of resolving grievances and disputes rest upon the notion of placing community harmony above the interests of the individual (Faris, 2015). In order for this approach to work the organization has to see itself, and be seen as part of the community just as all South Africans need to feel they are part of the country. In this standard, community is understood as: A group of people who, regardless of the diversity of their backgrounds, have been able to accept and transcend their differences, enabling them to communicate effectively and openly and to work together toward goals identified as being for their common good. Understanding that total harmony is not possible, the goal is to assess and document when the system is functioning well enough and is stable. It is important to understand the early signs of conflict or disharmony in order to prevent a breakdown in relationships.		
Indicators		**Means of verification**
4.6.1	Indicators of community disharmony related to plantation management are noted, analysed and solutions are sought.	Evidence of paying attention and responding to indicators of disharmony. **GUIDANCE**

		Signs of disharmony related to forest management are detected and responded to. e.g. - incidence of fires are monitored and causes analysed (See 10.9.1 for full requirements) - demonstrations or protests against the organization - disputes and grievances that have been registered Get direct feedback during stakeholder engagement
4.6.2	A culturally appropriate procedure for the resolution of disputes or grievances and provision of fair compensation is in place. 4.6.2.1 For Large Enterprises in excess of 1000ha only: The procedure is documented 4.6.2.2 Communities are aware of their rights to raise grievances relating to current operations on FMU.	Examine records of grievances and steps to resolve them. **GUIDANCE** Resolutions are sought that seek to restore community harmony. These may require fair compensation of affected parties. Grievances may be related to loss or damage caused by the forest enterprise and affecting the legal or customary rights, property, resources or livelihoods of identified local communities.
4.6.3	Operations directly related to, or causing the impact will be suspended in areas while disputes* which infringe on legal and/or customary rights exist of: 1) Substantial magnitude*; 2) Substantial duration*; or 3) Involving a significant* number of interests.	Record of disputes. Consultation with both parties**.** **GUIDANCE** Suspension of operations would take place in the case of very serious disputes.
4.6.4	An up to date record of grievances related to the impacts of management activities is held including: 1) Steps taken to resolve grievances	MS and LS: Documented records. SLIMF and OM: Interviews.

	2) Outcomes of all dispute* resolution processes including fair compensation* to local communities and individuals; and 3) Unresolved disputes*, the reasons they are not resolved, and how they will be resolved.	
Criterion 4.7 The Organization*, through engagement* with local communities*, shall* identify sites which are of special cultural, ecological, economic, religious or spiritual significance, and for which these local communities* hold legal* or customary rights*. These sites shall* be recognized by The Organization*, and their management and/or protection* shall* be agreed through engagement* with these local communities*. (new)		
Indicators		**Means of verification**
4.7.1	Sites of special cultural, ecological, economic, spiritual or religious significance to local communities shall be clearly identified and mapped in co-operation with local communities and other interested parties. Special attention shall be paid to sites of special cultural, ecological, economic spiritual or religious significance to KhoeSan descendants who still retain an interest and knowledge of such sites.	Maps. Records of community consultations. **GUIDANCE** The following types of sites of special significance are commonly found within plantations: 1. Grave sites. 2. Sacred and historical sites. 3. Areas of significant scenic value. 4. Rock Art. 5. Buildings protected under SAHRA. 6. Historical routes. These include but are not limited to sites of significance to local communities.
4.7.2	Measures to protect such sites are agreed, documented and implemented through engagement* with local communities*. When local communities* determine that physical identification of sites in documentation or on maps would threaten the value or protection* of the sites, then other means will be used.	Management prescriptions for sites of special interest.
4.7.3	Whenever sites of special cultural, ecological, economic, religious or spiritual significance are newly observed or discovered, management activities that may damage the	MS and LS: Procedure for actions to take when discovering new sites of potential significance to communities. SLIMF and OM: The manager can explain what the procedure is for

	site cease immediately until protective measures have been agreed to with interested parties or local communities*, and as directed by local and national laws*.	protecting new sites. Groups Schemes can have such a procedure as part of the group management system. **GUIDANCE** In the plantation context for new afforestation after 1998 it is likely that all such sites would have been identified during the EIA process. Develop procedures to protect new sites identified during forestry operations.
Criterion 4.8 The Organization* shall* uphold* the right of local communities* to protect* and utilize their traditional knowledge* and shall* compensate local communities* for the utilization of such knowledge and their intellectual property*. A binding agreement* as per Criterion* 3.3 shall* be concluded between The Organization* and the local communities* for such utilization through Free, Prior and Informed Consent* before utilization takes place, and shall* be consistent with the protection* of intellectual property* rights. (new)		
There is no traditional knowledge that could be considered intellectual property of local communities used in the forestry plantation industry for commercial purposes.		

PRINCIPLE 5: BENEFITS FROM THE FOREST

The Organization* shall* efficiently manage the range of multiple products and services of the Management Unit* to maintain or enhance long-term* economic viability* and the range of social and environmental benefits. (P5 P&C V4)
Criteria 5.1 "The Organization* shall identify, produce, or enable the production of, diversified benefits and/or products, based on the range of resources and ecosystem services* existing in the Management Unit*in order to strengthen and diversify the local economy proportionate to the scale* and intensity* of management activities. (C5.2 and 5.4 P&C V4).
This means that the organization must diversify its range of products and use the available resources and ecosystem services to the benefit of the local economy. This will promote community harmony and reduce a number of risks to sustainable plantation management. With regard to the plantation crop, diversification of products has limited scope for companies that produce for their own large-scale processing plants. In such cases trees are grown for a specific market and a value chain is developed that presents opportunities at various points in that chain and at various scales. Organizations that do not have to be supplied their own processing plants may have greater scope to diversify products and

supply local markets. The unplanted areas within the FMU supply ecosystem services such as biodiversity conservation, protection of water resources, grazing, and recreational space. The value of these can be felt locally.		
Indicators		**Means of verification**
5.1.1	The range of resources and ecosystem services* on the FMU and the potential benefits to local communities are known by management.	The manager is able to describe 1. The range of plantation products and how this could benefit local communities. 2. The range of ecosystem services and how these could benefit local communities. MS and LS: Must provide documented evidence of the above. SLIMF and OM: Managers can provide a verbal description. **GUIDANCE** MS and LS organizations should undertake a formal assessment of ecosystem services available in order to fully appreciate the range of products and services provided by the FMU and to communicate it throughout the organization and to stakeholders. For SLIMF and OM a discussion with the managers involving inter alia the following Does the FMU have; -opportunities for recreation -important catchments for water supply -wetlands for water quality maintenance and flood attenuation -natural ecosystems for biodiversity conservation and the other associated services - any other resources or ecosystem services of relevance to the MU in question and/or the neighbouring communities.
5.1.2	The organization diversifies the range of products and services produced on the FMU where this is beneficial to	The range of products and services that are available are being used where there are opportunities. Evidence of how opportunities are made known to the community. This could include passing information via word of mouth, notices to

	the sustainability of the operation and the community.	neighbours, agendas of liaison meetings with stakeholders, publicity campaigns. **GUIDANCE** The diversification of the operations may not always yield financial returns that seem to justify the effort, however consideration should be given to the role that opening access to the diversity of forest products will bring to promoting community harmony.
Criteria 5.2 The Organization* shall* normally harvest products and services from the Management Unit* at or below a level which can be permanently sustained. (C5.6 P&C V4)		
In the plantation context this criterion only applies to NTFP's from natural ecosystems. The standard will not be used for the certification of NFTPs.		
Criteria 5.3 The Organization* shall* demonstrate that the positive and negative externalities* of operations are included in the management plan*. (C5.1 P&C V4)		
5.3.1	Costs related to preventing, mitigating or compensating for negative social and environment impacts of management activities are quantified and documented in the management plan*.	Only applicable to LS: Budget and management plan.
5.3.2	Benefits related to positive social and environment impacts of management activities are identified and included in the management plan*.	Only applicable to LS: Budget and management plan.
Criteria 5.4 The Organization* shall* use local processing, local services, and local value adding to meet the requirements of The Organization* where these are available, proportionate to scale, intensity and risk*. If these are not locally available, The Organization* shall* make reasonable* attempts to help establish these services. (C5.2 P&C V4)		
When making procurement decisions, benefits to the local community are considered amongst a range of factors before the decision is made.		

Indicators		Means of verification
5.4.1	Where cost, quality and capacity of non-local and local options are at least equivalent, local goods, services, processing and value-added facilities are used.	Organization's procurement processes. **GUIDANCE** The organization must demonstrate how they take community interests into consideration when procuring goods and services.
5.4.2	MS and LS only: Reasonable* attempts are made to establish and encourage capacity where local goods, services, processing and value-added facilities are not available.	MS and LS: Evidence of efforts to encourage local businesses. SLIMF and OM: Not applicable.

Criterion 5.5 The Organization* shall* demonstrate through its planning and expenditures proportionate to scale, intensity and risk*, its commitment to long-term* economic viability*. (C5.1 P&C V4)

Long term economic viability can only be demonstrated through current commitments. For example; investment in good silviculture techniques, maintenance of infrastructure, investment in research, investment in sound community relations. Broadly, a commitment to sustainable forest management is demonstrated through conformance to the FSC Standard. If the organization is found to be compliant with the rest of the standard then this criterion can be deemed to be met. In addition a critical aspect of economic viability is monitoring of key risk related to productivity. These are yield, production costs and site quality. Indicators have been added to cover these.

Indicators		Means of verification
5.5.1	Sufficient funds are allocated to implement the management plan* in order to meet this standard and to ensure long-term* economic viability*.	MS and LS: Budget and management plan. SLIMF and OM: Interviews.
5.5.2	Expenditures and investments are made to implement the management plan* in order to meet this standard and to ensure long-term* economic viability*.	MS and LS: Budget and management plan and evidence of expenditure. SLIMF and OM: Interviews.
5.5.3	Monitoring of risks to long term economic viability: Risk: Poor Yield Aspects important to plantation productivity are monitored.	MS and LS: Management plan and records of tonnage. SLIMF and OM: Interview on how aspects listed in the guidance are monitored. If infield compliance indicators are poor then documented evidence can be requested.

		GUIDANCE Monitoring should include the following where relevant to operations: 1. Actual yields against predicted yield C5.5 2. Silvicultural specifications important to optimize stocking [silvicultural quality, weeding, growth, plant quality and seed source, chemical use] C10.5 3. External aspects critical to production [disease, fire, weather, theft, damage from animals] C10.9
5.5.4	Monitoring of risks to long term economic viability: Risk: Reduction In Site Quality Where historical data is available, long term analysis of yields evaluated against yield risk factors are carried out.	Manager is aware of risks to sustainable yields. E.g. loss of soil, soil nutrient status. MS and LS: Documented records demonstrating that planning and monitoring is taking place; for example, soil loss and soil nutrient status monitoring. For SLIMF and OM: Awareness of risks to site quality and knowledge of management practices to avoid this. **GUIDANCE** Reference Environmental Guidelines for aspects related to site quality maintenance.
5.5.5	Monitoring of risks to long term economic viability: Risk: High Costs Of Production The drivers of the costs of production are understood and relevant aspects monitored including: labour costs, running costs of machinery.	MS and LS: Budgets. SLIMF and OM: Interview on how aspects listed in the guidance are monitored. **GUIDANCE** It is only necessary to explore these aspects in depth if there is reason to believe that the manager is not controlling costs and this is a risk to profitability.

PRINCIPLE 6: ENVIRONMENTAL VALUES AND IMPACTS

The Organization* shall* maintain, conserve* and/or restore* ecosystem services* and environmental values* of the Management Unit*, and shall* avoid, repair or mitigate negative environmental impacts. (P6 P&C V4)
In South Africa, plantations have been established in non-forest ecosystems. Conversion of natural forests is prohibited by the National Forest Act (National Forests Act (No. 84 of 1998). The plantation estate comprises the plantations and supporting infrastructure and land which is managed for maintaining or enhancing environmental values*. These unplanted areas are clearly distinguishable from the plantations. Potential environmental impacts when converting areas to plantations are considered during the application for a water use license and an environmental impact assessment (EIA).
Criterion 6.1 The Organization* shall* assess environmental values* in the Management Unit* and those values outside the Management Unit* potentially affected by management activities. This assessment shall* be undertaken with a level of detail, scale and frequency that is proportionate to the scale, intensity and risk* of management activities, and is sufficient for the purpose of deciding the necessary conservation* measures, and for detecting and monitoring* possible negative impacts of those activities. (new)
Due to the regular nature of the plantation cycle, the impacts of management activities on environmental values are mostly predictable and can be avoided or mitigated. In order to guide the development of indicators for this standard, a national-level risk assessment was conducted. In this process the impact of a comprehensive range of management activities on environmental values* was undertaken, using expert opinion and stakeholder consultation. This environmental risk assessment is included in Annex 4 of this Standard. Organizations can use their own company risk assessments to guide adherence to the requirements of the Standard as long as they include the environmental values* in Annex 4, as a minimum requirement.

Indicators		**Means of verification**
6.1.1	Best available information* is used to identify environmental values within and, where potentially affected by management activities, outside of the Management Unit.	MS and LS: The organization consults the risk assessment included in Annex 4 in order to identify the management activities and environmental values affected by these activities. The organization may use its own risk assessment as long as it addresses the environmental values* as defined in the glossary. **GROUP SCHEMES:** May apply the risk assessment at group level.

		GUIDANCE Refer to Annex 4 for details on the development and application of the environmental risk assessment*. The risk assessment in Annex 4 is a source of best available information. The manager identifies the management activities that are relevant to the FMU and the environmental values* at risk for each one. Where an organization chooses to use its own risk assessment it must justify any differences in risk designation.
6.1.2	6.1.2 Assessments of environmental values* are conducted with a level of detail and frequency so that: 1) Impacts of management activities on the identified environmental values* can be assessed as per Criterion* 6.2; 2) Risks* to environmental values* can be identified as per Criterion* 6.2; 3) Necessary conservation* measures to protect values can be identified as per Criterion* 6.3; and, 4) Monitoring* of impacts or environmental changes can be conducted as per Principle* 8.	As above.
Criterion 6.2 Prior to the start of site-disturbing activities, The Organization* shall* identify and assess the scale, intensity and risk* of potential impacts of management activities on the identified environmental values*. (C6.1 P&C V4)		
Indicators		**Means of verification**
6.2.1	The Organization has identified and assessed the scale, intensity and risk* of potential impacts of management activities on the identified environmental values*.	MS and LS: The organization has completed a risk assessment and prioritized the potential environmental impacts of its management activities. SLIMF and OM: Managers demonstrate an understanding of which management activities have potential impacts on the identified management

		values. **GUIDANCE** The generic risk assessment in Annex 4 should be used. The organisation may complete a company risk assessment (risk register) or site-specific risk assessment. Follow the process as described in Annex 4.
6.2.2	Prior to any site disturbing activities, environmental impact assessments are undertaken for any developments on the FMU and records of decision complied with.	Compliance with the National Environmental Management Act (No. 107 of 1998) [NEMA EIA regulation 2014. Listing Notices]. **GUIDANCE** The NEMA EIA regulations contain listing notices which are periodically updated. These regulations must be consulted before undertaking activities such as; afforestation, construction of dams or weirs, sewage treatment plants, new roads, waste disposal sites and others, to see if the planned activity triggers the requirement of an EIA. Note that certain activities affecting fresh water also require a water use license. This requirement is included in 6.7.
Criterion 6.3 The Organization* shall* identify and implement effective actions to prevent negative impacts of management activities on the environmental values*, and to mitigate and repair those that occur, proportionate to the scale, intensity and risk* of these impacts. (C6.1 P&C V4)		
SA Context: The requirement for mitigation measures are included in the relevant indicators in the standard (See Annex 4). The organization's site specific measures will be evident in how the organization complies with the indicator. Compliance with this criterion is spread throughout the standard.		
Indicators		**Means of verification**
6.3.1	Management activities are planned and implemented to prevent negative impacts and to protect environmental values*.	The requirements for management planning are met through compliance with 7.2.1. and in P6, P9 and P10 where planning forms part of the indicators. The requirements for implementation are met through compliance with P6, P9 and P10. **GUIDANCE**

		In most cases compliance with this indicator should be covered in P6-P10. Should there be evidence of a significant lack of planning and implementation during the auditing of P6 to P10 with regard to the prevention of negative impacts to environmental values, then non-compliance could be raised under 6.3.1.
6.3.2	Management activities prevent negative impacts to environmental values*.	The requirements for this indicator are met under various criteria but most specifically in the following indicators 6.5.2, 6.6.1, 6.6.2, 6.6.3, 6.6.4, 6.6.5, 6.6.2, 6.7.2., 10.3.2, 10.10.2, 10.11.1 and 10.11.2. **GUIDANCE** The focus of this indicator is to determine if management activities are preventing impacts to environmental values*. Should there be evidence of significant lack of effectiveness across the relevant indicators, then this could be raised under 6.3.2.
6.3.3	Where negative impacts to environmental values* occur, measures are implemented to prevent further damage, and negative impacts are mitigated* and/or repaired*.	The requirements for this indicator are met under various criteria but most specifically in the following indicators 6.6.2, 6.6.4, 6.7.3, 10.3.2, 10.9.4, 10.11.2. **GUIDANCE** The focus of this indicator is to determine if measures are taken to halt, repair*/mitigate* impacts to environmental values*. Should there be evidence of significant lack of implementation of such measures then this could be raised under 6.3.3.
SA CONTEXT [Applies to C6.4, C6.5, C6.6]: Conservation zones or protection areas are the areas on the plantation estate that were not converted to tree plantations and its supporting infrastructure and have, as a primary objective, the conservation of natural habitat. They may have secondary objectives of fire protection and/or livestock grazing. In these cases, management must attempt to strike a balance between these potentially conflicting objectives. There are usually no production related management activities that take place in the conservation zones and they are, in most cases, clearly distinguishable from the plantation crop areas. Broadly speaking, these areas comprise grasslands, natural forests, freshwater ecosystems (e.g. wetlands, rivers and their riparian areas, pans), fynbos, and savannah. Managing for biodiversity in fragments of these ecosystems in a plantation matrix is challenging but guidelines, from experts, as well as the 2017 Environmental Management Guidelines for Plantation Forestry in South Africa (www.forestysouthafrica.org) are available and should be consulted. Criterion 6.4, 6.5 and 6.6		

have objectives that would be met through sound management of the conservation zones, however each one emphasizes a different aspect. This is further explained under each criterion.

Criterion 6.4 The Organization* shall* protect rare species* and threatened species* and their habitats* in the Management Unit* through conservation zones*, protection areas*, connectivity* and/or (where necessary) other direct measures for their survival and viability. (1) These measures shall* be proportionate to the scale, intensity and risk* of management activities and to the conservation* status and ecological requirements of the rare and threatened species* (2). The Organization* shall* take into account the geographic range and ecological requirements of rare and threatened species* beyond the boundary of the Management Unit*, when determining the measures to be taken inside the Management Unit* (3). (C6.2 P&C V4)

The emphasis in the South African context is maintenance of habitat quality which supports the survival of listed Threatened or Protected Species (TOPS*). Where these are known to occur, conservation actions aimed at a particular species are taken. These species are referred to as **priority species***. Where priority species are known to occur, actions aimed at a particular species are taken and this is usually done with guidance from best available information or direct assistance from conservation agencies or the relevant NGO's. Where applicable this includes alignment with landscape level conservation efforts.

In South Africa The National Environmental Management: Biodiversity Act (No. 10 of 2004), (NEMBA) provides for listing of species as threatened or protected. These lists are found on the following web site: http://www.gov.za/sites/www.gov.za/files/38600_gen256a.pdf.

In South Africa, organizations must aim to manage the unplanted land to maintain ecological integrity*, resulting in a network of conservation zones that increase connectivity both internally and with the landscape beyond the FMU.

Indicators		**Means of verification**
6.4.1	The presence or likely presence of Threatened or Protected Species (TOPS*) and their habitats occurring within and adjacent to the FMU is assessed using the best available information*.	MS and LS: The vegetation unit*, its conservation status and TOPS* likely to occur, are known and recorded for the unplanted areas on the plantation estate. If TOPS* have been found, their presence is recorded. It can demonstrated that this assessment is in accordance with 6.5.2. SLIMF and OM: Interviews to explain how best available information* is used to

		identify presence or likely presence of If TOPS* E.g. direct advice from conservation agencies or NGOs. Group Schemes: Should include guidance on identifying presence or likely presence of TOPS*. This can be provided for a region or landscape. **GUIDANCE** Best available information includes: - SANBI National Vegetation Map: http://bgis.sanbi.org/vegmap/map.asp? for information on the vegetation unit*, species lists, geology and soils, climate, important taxa, conservation status etc. -Systematic conservation plan for the province directly or by contacting the conservation agencies. The conservation agencies can provide information on priority species depending on what habitats are on the FMU. - Conservation NGO's such as the Endangered Wildlife Trust. Group Schemes could provide support to members by conducting landscape level assessments and listing potential priority species* in the management system.

6.4.2	Potential impacts of management activities on TOPS* are identified and their habitat is managed to avoid negative impacts.	Examine sources of best available information. MS and LS: Documented evidence of collaboration with species protection programmes with respect to monitoring and management of priority species*. For all organizations: Evidence that the best available information is being used for management of priority species* and their habitats. **GUIDANCE** Best available information can mean published best management practices or through direct consultation with the conservation authorities. Some credible sources of best available information are*: - Environmental Guidelines for Commercial Forestry Plantations in South Africa - Grazing and Burning Guidelines: Managing Grasslands for Biodiversity and Livestock Production (SANBI, 2014) - Grasslands Ecosystem Guidelines (SANBI, 2014) - Conservation at work guidelines for the Western Cape: http://www.conservationatwork.co.za/conservation-guidelines - Ecosystem Guidelines for Environmental Assessment in the Western Cape (Fynbos Forum, 2016) - The Endangered Wildlife Trust - http://www.ewt.org.za/biodiversitydata.html

6.4.3	TOPS* and their habitats* are protected, including through the provision of conservation zones*, protection areas*, connectivity*, and other direct means for their survival and viability, such as species' recovery programs.	Examine sources of best available information. MS and LS: Documented evidence of collaboration with species protection programmes with respect to monitoring and management of **priority species*.** For all organizations: Evidence that the best available information is being used for management of priority species and their habitats. **GUIDANCE** Best available information can mean published best management practices or through direct consultation with the conservation authorities. Some credible sources of best available information are*: - Environmental Guidelines for Commercial Forestry Plantations in South Africa. - Grazing and Burning Guidelines: Managing Grasslands for Biodiversity and Livestock Production (SANBI, 2014) - Grasslands Ecosystem Guidelines (SANBI, 2014) - Conservation at work guidelines for the Western Cape: http://www.conservationatwork.co.za/conservation-guidelines - Ecosystem Guidelines for Environmental Assessment in the Western Cape (Fynbos Forum, 2016) - The Endangered Wildlife Trust - http://www.ewt.org.za/biodiversitydata.html

6.4.4	Using best available information, conservation zones are prioritized according to conservation value.	The representative ecosystems are mapped and designated as conservation zones. MS and LS: Use of systematic conservation planning and condition as key information sources for prioritizing the conservation value of the conservation zones. SLIMF and OM: Prioritization can be based on other practical factors that may be relevant. **GUIDANCE** For MS and LS, the Grasslands Programmes Biodiversity Conservation Planning Tool can be used as a first level assessment for prioritizing conservation zones. The National Freshwater Ecosystem Priority Areas (NFEPA) allows for the use of national criteria to identify FEPAs which is available on www.wetlands.za.net For SLIMF and OM needs to be able to describe a rationale for prioritizing the conservation zones on the FMU. Management of conservation zones is covered by 6.6.
6.4.5	Hunting, fishing, trapping and collection of TOPS* is prevented, unless culling is required for conservation of these species. The culling of TOPS* shall be compliant with relevant legislation such as Nature Conservation Ordinances in the provinces and NEMBA.	Interviews Examination of permits if culling of TOPS has occurred

Criterion 6.5 The Organization* shall* identify and protect representative sample areas of native ecosystems* and/or restore* them to more natural conditions*(1). Where representative sample areas* do not exist or are insufficient, The Organization* shall* restore* a proportion of the Management Unit* to more natural conditions*(2). The size of the areas and the measures taken for their protection or restoration, including within plantations, shall* be proportionate to the conservation* status and value of the ecosystems* at the landscape* level, and the scale, intensity and risk* of management activities (3). (C6.4 and 10.5 P&C V4 and Motion 2014#7)
The presence of representative ecosystems in the South African plantation context is related to the productive potential of the land. Outside of protected areas, representative ecosystems within areas of high economic potential are almost non-existent. It follows that such representative ecosystems that do exist in production landscapes are generally on sites that will offer poor economic returns. Existing legal afforestation has been authorised in terms of a license. Organizations are not expected to remove productive plantations to restore native ecosystems. Moreover, the restoration potential of most natural ecosystems that have been converted to plantation forestry is poor. Grasslands in particular have a very poor prognosis for restoration and conversation to plantation forestry is considered irreversible (SANBI, 2013). All existing systematic conservation plans consider the legal plantation estate in their outputs. However, at certificate level (including group certification schemes) no certified unit in South Africa has less than 20% of the land as conservation zones. This makes it easy to meet the FSC IGI requirement of 10% of the area of the FMU, provided SLIMF and Medium Scale units are able to comply through group schemes. This does not mean that the FMU will have a representation of all ecosystems that were originally in the landscape, as those that occurred on highly productive sites will be lost, for all practical purposes, forever. In South Africa there is considerable value to be gained by restoring existing degraded conservation zones. There is an ongoing effort to clear riparian and wetland buffers and restore good habitat quality in these buffers. Habitat quality is considered the key element in promoting connectivity and increasing biodiversity in the ecological network (Samways, 2010). The requirement for restoration is focused on restoring habitat quality in the network. In SA new afforestation must go through an EIA involving landscape planning to ensure sufficient unplanted area is maintained for conservation zones. This landscape planning process is driven by the Provincial systematic conservation plans and local spatial development frameworks.

Indicators		Means of verification
6.5.1	Best Available Information* is used to identify native ecosystems* that exist, or would exist under natural conditions* within the Management Unit *.	MS and LS: The vegetation units according to the national vegetation map (Mucina and Rutherford, 2006) for the unplanted areas of the FMU, are known and mapped. SLIMFs and OM: The manager knows the broad vegetation units in order to be able apply best management practices. **GUIDANCE** The SANBI National Vegetation Map is available on the SANBI web site. http://bgis.sanbi.org/vegmap/map.asp? The following broad vegetation units* are likely to occur in the plantation growing areas of South Africa: Savannah: All types Grasslands: Dry Highveld Grasslands, Mesic Highveld Grasslands, High Altitude Grasslands, Sub-Escarpment Grasslands, Indian Ocean Coast Grasslands Fynbos: Proteoid, Ericaceous, Restioid Asteraceous, Shrubby and Grassy Indigenous forests: Montane forest, Mistbelt forest, Coastal scarp forest, Coastal lowland forest Sand forest, Riverine forest. *****These were derived from the bioregions in Mucina and Rutherford (2006).
6.5.2	Representative Sample Areas* of native ecosystems* are protected, where they exist.	The representative ecosystems are mapped and designated as conservation zones. **GUIDANCE** See 6.4.4 for further guidance on prioritization of conservation zones. Management of conservation zones is covered in 6.6.
6.5.3	Where Representative Sample Areas* do not exist, or where existing sample areas inadequately represent	Management plans and maps. Field inspections.

	native ecosystems*, or are otherwise insufficient, a proportion of the Management Unit* is restored* to more natural conditions*.	
6.5.4	The size of the Representative Sample Areas* and/or restoration* areas is proportionate to the conservation* status and value of the ecosystems* at the landscape* level, the size of the Management Unit* and the intensity* of forest* management.	Management plans and maps. Field inspections.
6.5.5	Representative Sample Areas* in combination with other components of the conservation areas network* comprise a minimum 10% area of the Management Unit* or for SLIMFs,at group certificate level.	MS and LS with individual certificates. Check maps and figures at Management Unit* level. SLIMF and MS in group certification schemes: This requirement can be met at group scheme level. **GUIDANCE** Refer to context statement under 6.5.for background.
Criterion 6.6 The Organization* shall* effectively maintain the continued existence of naturally occurring native species* and genotypes*, and prevent losses of biological diversity*, especially through habitat* management in the Management Unit*. The Organization* shall* demonstrate that effective measures are in place to manage and control hunting, fishing, trapping and collecting. (C6.2 and C6.3 P&C V4)		
The emphasis of this criterion is preventing the loss of biodiversity through habitat management. In South Africa most plantations were established in grasslands and fynbos that require fire to maintain their biodiversity. Protecting plantations from fire while ensuring the fire prone ecosystems receive the required burning regime is challenging, and requires well planned controlled burning practices. The other key activities that maintain habitat quality in conservation zones are alien plant control and management of livestock.		
Indicators		**Means of verification**
6.6.1	A fire management plan for natural ecosystems guided by the best available information* is implemented and is effective.	Fire management plan, specific with respect to the burning of wetlands**, grasslands, fynbos and the protection of natural forests.

		MS and LS: Documented fire management plan for conservation zones with accompanying maps. Field verification of implementation. Biodiversity monitoring takes place in Conservation zones designated as high priority in 6.5.2, E.g. Grassland for biodiversity monitoring. SLIMF and OM: Burning regimes can be demonstrated infield. **GUIDANCE** Best available information could include: - FSA Environmental Guidelines - Apply principles from section 4.3; 4.4; 4.5; 4.8.1; 4.9; and 4.10 - SANBI Grasslands Programme - Grazing and Burning Guidelines (2014) - Ecosystem Guidelines for Environmental Assessment in the Western Cape (Fynbos Forum, 2016). Expert advice in cases where infield management indicates that it is necessary or where the manager clearly does not have the knowledge or information required. **Fires on plantation estates have had a significant negative impact on certain sensitive ecosystems. For example, swamp forest and peat lands in parts of the country. It is critical that these impacts are identified and specifically addressed where they occur.
6.6.2	A programme to control and eradicate listed invasive species from conservation zones is implemented and is effective.	MS and LS: Documented Alien and Invasive Species control plan containing the elements described in the guidance. Field inspections to evaluate the effectiveness of the control plans. SLIMF and OM: A field inspection to assess severity of any infestation. Where

		less than 50% of open areas are in a maintenance phase, a documented plan must be in place and followed for 5 years. **GUIDANCE** Control and eradication of listed invasive species is required under the following legislation. National Environmental Management: Biodiversity Act (No. 10 of 2004) NEMBA (No. 10 of 2004) Alien and Invasive Species Regulations, 2014 NEMBA (No. 10 of 2004) Alien and Invasive Species List, 2014 The plan should contain the following at individual farm level: 1. An assessment of levels of infestation. 2. Targets with time frames. The ultimate aim should be to get all conservation zones to a maintenance level of infestation. Maintenance phase is a level of infestation which will require 2 people or less a day, to clear all alien invasive species in one hectare of land. 3. A rationale for prioritization which includes ecological considerations. 4. The progress of the weed control programme is monitored and can be demonstrated. SLIMF and OM must be able to demonstrate the following; 1. That follow-up operations are prioritized. 2. Progress is being made over time.
6.6.3	Grazing by livestock and wildlife shall be managed to prevent overgrazing and deterioration of the natural habitat.	Inspection of grazing areas for signs of overgrazing, such as soil erosion and proliferation of indicator (increaser) species such as *Aristida junciformis.* Inspection of wetlands and watercourses for signs of excessive trampling by livestock which could cause erosion.

		Where grazing is under the control of the manager: The manager has a documented grazing plan that ensures carrying capacity is not exceeded and wetlands and watercourses are protected. Monitoring of grazing areas for indicators of overgrazing is undertaken where carrying capacity is exceeded. MS and LS: There is a documented grazing plan. Results of monitoring are documented. Biodiversity monitoring takes place in Conservation zones designated as high priority in 6.5.2. E.g. Grassland for biodiversity monitoring. SLIMF and OM: The manager can describe the grazing system and monitoring that takes place to ensure overgrazing does not occur. **In cases where neighbouring communities' animals are straying onto the FMU or the cattle belong to workers:** - evidence that the manager is engaging with livestock owners to find solutions if there are signs of overgrazing. -Interviews with livestock owners -Examine managers monitoring systems -Examine systems of controlling grazing **GUIDANCE** This applies to FMUs with natural habitats that are subject to high grazing pressure. FSA Environmental Guidelines (10.4.4) contain the key points on grazing and burning. In cases where neighbouring communities' animals are straying onto the FMU or the cattle belong to workers, the issue must be dealt with sensitively. Apart from having financial value, cattle play an important cultural role in African tradition. Efforts to reduce grazing pressure within the FMU can result in disputes and

		reactions such as arson are common. In such cases, there must be evidence of efforts to resolve these. The following issues should be considered: 1. Carrying capacities of grazed areas in relation to number of cattle. 2. Organization's relationship with livestock owners. 3. System of control (permits, tags, herds under control of a herdsman, evidence of security guards etc.). 4. Monitoring of impacts of livestock on streams or wetlands. 5. The manager is talking to the livestock owners about it. Additional resources: Grazing and Burning Guidelines. (SANBI, 2014).
6.6.4	Where plantations have been removed for ecological or economic reasons, best practice* is followed in order to restore the area to more natural conditions.	Inspection of restoration sites. **GUIDANCE** This refers to areas where plantations have been removed and natural vegetation restored. The following are examples of where this may take place: 1. In removing trees from wetlands or water courses, and in establishing buffers around them. 2. Removal of trees from sites that are too steep for forestry. 3. Removal of trees from unproductive sites. 4. Removal of trees to improve connectivity within ecological corridors. Examples of sources of best practice for restoration are as follows: - Environmental Guidelines for Commercial Forestry Plantations in South Africa - Grasslands Ecosystem Guidelines (SANBI, 2014) - Conservation at work guidelines for the Western Cape: http://www.conservationatwork.co.za/conservation-guidelines - Ecosystem Guidelines for Environmental Assessment in the Western Cape (Fynbos Forum, 2016).

6.6.5	Management maintains, enhances, or restores* habitat features* associated with native ecosystems*, to support the diversity of naturally occurring species and their genetic diversity.	Field inspections. Planned protection measures. **GUIDANCE** Habitat features will vary depending on vegetation type but may include: Rocky outcrops, cliff lines, marshes, springs, ponds, waterfalls. Areas for nesting, procreation, feeding, shelter, migration, hibernation.
6.6.6	Measures are taken to manage and control hunting, fishing, trapping and collecting.	Hunting, fishing, trapping or collecting that takes place on the FMU is compliant with the provincial and national legislation**.** **GUIDANCE** In South Africa all such activities are regulated though the provincial conservation agencies. Certain species are protected and require permits. The legislation covering this is the various Nature Conservation ordinances in the provinces and the NEMBA (No. 10, 2004) Threatened or Protected species regulations. This indictor refers to the control of legal hunting**.** Control of illegal activities is covered in 1.4.

Criterion 6.7 The Organization* shall* protect* or restore* natural watercourses, water bodies*, riparian zones* and their connectivity*. The Organization* shall* avoid negative impacts on water quality and quantity and mitigate and remedy those that occur. (C6.5 and 10.2 P&C V4)		
South Africa is a dry country with limited water resources. Plantation forestry occurs in the wetter catchments of South Africa and has a significant impact on stream flow. As a result, the National Water Act (No. 36 of 1998) has declared plantation forestry as a stream flow reduction activity for which a water use license is required. In addition, the Conservation of Agricultural Resources Act (No. 43 of 1983), Regulations 15 and 16, (Amended in 2001.) and the National Environmental Management: Biodiversity Act, 2004 (Act no. 10 of 2004) – Alien and Invasive Species (AIS) Regulations (2014) cover the control of invasive alien plants.		
Indicators		**Means of verification**
6.7.1	Wetlands and riparian areas are delineated* and prioritised and protected from forestry impacts by adequate buffers of appropriate vegetation guided by the best available information*.	Field inspection of wetlands * and riparian areas*. MS and LS: Maps showing wetlands. Documents or maps showing the wetlands and riparian areas and how wetland systems are prioritised. Prioritisation includes catchment or regional considerations, e.g. Use of National or Provincial wetland datasets. SLIMF and OM: Can describe the reasons for prioritisation. Prioritisation at this scale would for focused on local conditions but may include broader catchment or regional scale considerations. **GUIDANCE** Best available information* is as follows: Maps of the NFEPA found at: http://bgis.sanbi.org/nfepa/project.asp. A practical field procedure for identification and delineation of wetlands and riparian areas. This is available from www.dws.gov.za. A synopsis is presented in the Environmental Guidelines for Commercial Forestry Plantations in South Africa.

		The DWS guidelines state that for forestry the minimum buffer between the outer edge of the temporary zone of a wetland or the outer boundary of a riparian zone* and the land use would normally be 20 meters, unless specified to the contrary in a permit or water use license. Where the buffer zone is less there must be clear justification. **Note that riparian habitats and riparian zones are synonymous.
6.7.2	Wetlands*, riparian habitats* and their buffers are managed for maintenance or enhancement of ecosystem health and connectivity.	Field inspections of wetlands* and riparian habitats*. Evidence of restoration activities and effectiveness thereof. MS and LS: Examination of management plans and progress against plans. Wetlands and riparian area are protected from forestry impacts by adequate buffers of appropriate vegetation guided by the best available information*. **GUIDANCE** Best available information includes the following: FSA Environmental Guidelines WET-Rehab Methods national guidelines and methods for wetland rehabilitation (See www.wrc.org.za) General requirements for managing riparian habitats are met under Indicators 6.6.1, 6.6.2 and 6.6.3. This includes blocking of artificial or unwanted drains in wetlands, stabilizing head-cut and river bank erosion and the restoration of wetland, riparian zone and buffer vegetation.
6.7.3	Safeguards to protect wetlands and water courses from the impacts of forestry activities are implemented.	Forestry activities that impact on freshwater ecosystems have been identified in the risk assessment (Refer to Annex 4 for generic risk assessment). Safeguards for these impacts are included under the relevant criteria. These are: use of

		fertilizers (Criterion 10.6), use of chemicals (Criterion 10.7), uncontrolled fires (Indicators 10.9.1-10.9.7), soil erosion and sedimentation related to the road network (10.10.1) hydrocarbon spillage (Indicator 10.10.3), harvesting and extraction (Indicators10.11.1, 10.11.3), management of plantation residues (Indicator 10.11.2), waste disposal (Criterion 10.12), soil erosion and sedimentation as a result of cultivation and the use of machinery (Criterion 10.5). **GUIDANCE** Section 21 of the National Water Act (Act 36 of 1998) protects watercourses and wetlands by requiring a water use license for a number of activities, the following of which are directly related to forestry: taking water from a water resource, storing water, impeding or diverting the flow of water in a watercourse, disposing of waste in a manner which may detrimentally impact on a water course, altering the bed, banks, course or characteristics of a watercourse. See Environmental Management Guidelines for Plantation Forestry in South Africa, Chapter 2.1.2.1 for further guidance.
6.7.4	Where natural watercourses, water bodies*, riparian zones* and their connectivity*, water quantity or water quality have been damaged by past activities on land and water by The Organization*, restoration activities* are implemented. This applies to ongoing and past damage.	Field inspections. **GUIDANCE** FSA Environmental Guidelines WET-Rehab Methods national guidelines and methods for wetland rehabilitation (See www.wrc.org.za) General requirements for managing riparian habitats are met under Indicators 6.6.1, 6.6.2 and 6.6.3. This includes blocking of artificial or unwanted drains in wetlands, stabilizing head-cut and river bank erosion and the restoration of wetland, riparian zone and buffer vegetation.

Criterion 6.8 The Organization* shall* manage the landscape* in the Management Unit* to maintain and/or restore* a varying mosaic of species, sizes, ages, spatial scales* and regeneration cycles appropriate for the landscape values* in that region, and for enhancing environmental and economic resilience*. (C10.2 and 10.3 P&C V4)		
The focus of this criterion in the South African plantation context is diversification for economic and environmental resilience. In South African plantation forestry, it is not the greater landscape that would guide decisions to diversify but a number of other factors including: -Species choice which is governed by site, climate, fire risk, market, risk of pests, disease and damage causing animals. -Age class distribution which is determined by the supply, marketing and risk strategy. -Spatial scales (compartment size) which is governed by site, market, topography, and harvesting practicalities. -Regeneration cycles which are determined by market and peak MAI (product produced). This criterion is met though compliance with 10.2. -the position of the plantations are determined by the presence of natural habitats that require protection, including wetlands and watercourses. These aspects are governed by Indicators 5.1.1, 5.1.2, 6.3.1, 6.3.2, 6.3.3; Criteria 6.4, 6.5, 6.6, 6.7 and Indicators 10.2.1 and 10.10.2. If these indicators are met then then the requirements for 6.8 is fulfilled.		
Criterion 6.9"The Organization* shall* not convert natural forest* to plantations*, nor natural forests* or plantations* on sites directly converted from natural forest* to non-forest* land use, except when the conversion: **a) Affects a very limited portion* of the area of the Management Unit*, and** **b) Will produce clear, substantial, additional, secure long-term conservation* benefits in the Management Unit*, and** **c) Does not damage or threaten High Conservation Values*, nor any sites or resources necessary to maintain or enhance those High Conservation Values*. (C6.10 P&C V4 and Motion 2014#7)"**		
Clearing indigenous forests to establish plantations has never been authorised in South Africa. The 1998 National Forest Act prohibits the conversion of natural forests. This criterion is met for all legal plantations, established since 1972.		
6.9.1	There is no conversion of natural forest* to plantations*, nor conversion of natural forests* to non-forest* land use, nor conversion of plantations* on sites directly converted from natural forest* to non-forest* land use, except when the conversion: 1) Affects a very limited portion* of the Management Unit*, and	**GUIDANCE** Conversion of indigenous forests to plantations has never been authorised in South Africa. The 1998 National Forest Act prohibits the conversion of natural forests to any other land use so this criterion is met for all legal plantations, established since 1972.

	2) The conversion will produce clear, substantial, additional, secure, long-term conservation* benefits in the Management Unit*; and 3) Does not damage or threaten High Conservation Values*, nor any sites or resources necessary to maintain or enhance those High Conservation Values*.	
Criterion 6.10"Management Units* containing plantations* that were established on areas converted from natural forest* after November 1994 shall* not qualify for certification, except where: **a) Clear and sufficient evidence is provided that The Organization* was not directly or indirectly responsible for the conversion, or** **b) The conversion affected a very limited portion* of the area of the Management Unit* and is producing clear, substantial, additional, secure long-term conservation* benefits in the Management Unit*. (C10.9 P&C V4)"**		
6.10.1	Based on Best Available Information*, accurate data is compiled on all conversions since 1994.	**GUIDANCE** Conversion of indigenous forests to plantations has never been authorised in South Africa. The 1998 National Forest Act prohibits the conversion of natural forests to any other land use so this criterion is met for all legal plantations, established since 1972.
6.10.2	Areas converted from natural forest* to plantation* since November 1994 are not certified, except where: 1) The Organization* provides clear and sufficient evidence that it was not directly or indirectly responsible for the conversion; or 2) The conversion is producing clear, substantial, additional, secure, long-term conservation* benefits in the Management Unit*; and 3) The total area of plantation* on sites converted from natural forest* since November 1994 is less than 5% of the total area of the Management Unit*.	**GUIDANCE** Conversion of indigenous forests to plantations has never been authorised in South Africa. The 1998 National Forest Act prohibits the conversion of natural forests to any other land use so this criterion is met for all legal plantations, established since 1972.

PRINCIPLE 7: MANAGEMENT PLANNING

The Organization* shall* have a management plan* consistent with its policies and objectives* and proportionate to scale, intensity and risks* of its management activities. The management plan* shall* be implemented and kept up to date based on monitoring* information in order to promote adaptive management*. The associated planning and procedural documentation shall be sufficient to guide staff, inform affected stakeholders* and interested stakeholders* and to justify management decisions. (P7 P&CV4)		
Due to the regular and systematic nature of plantation forestry it is relatively simple to define the key requirements for a sound management plan. Typically, management planning is not a high risk factor in South African plantation forestry. Most forestry land is under the management of well-trained highly skilled managers.		
Criterion 7.1 The Organization* shall*, proportionate to scale, intensity and risk* of its management activities, set policies (visions and values) and objectives* for management, which are environmentally sound, socially beneficial and economically viable. Summaries of these policies and objectives* shall* be incorporated into the management plan*, and publicized. (C7.1a P&C V4)		
Criterion 7.1 is focused on policies and broader objectives.		
Indicators		**Means of verification**
7.1.1	The organization's vision and values and broader objectives are reflected in policies that promote environmentally sound, socially beneficial and economically viable forestry.	MS and LS: Documented policies. SLIMF and OM: Interview on how the management plan ensures sustainable forestry. Group Schemes: Such policies can form part of the group management system. **GUIDANCE** Group Schemes can have such policies as part of the group scheme documentation.

Criterion 7.2 The Organization* shall* have and implement a management plan* for the Management Unit* which is fully consistent with the policies and management objectives* as established according to Criterion* 7.1. The management plan* shall* describe the natural resources that exist in the Management Unit* and explain how the plan will meet the FSC certification requirements. The management plan* shall* cover forest* management planning and social management planning proportionate to scale*, intensity* and risk* of the planned activities. (C7.1 P&C V4)		
Criterion 7.2 addresses the detailed requirements for the management plan.		
Indicators		**Means of verification**
7.2.1	The management plan* includes management actions, procedures, strategies and measures to achieve the management objectives* and is consistent with the elements in Annex E.	MS and LS: Management planning system addresses elements listed in Annex E where relevant. SLIMF AND OM: Plantation map (h) and compartment list required. Depending on the scale and intensity of the operation and in order to cater for community forestry operations, elements of the management plan may be verbally expressed in interviews with the responsible people. In group schemes some of the elements could be done at group level. The group management system must define the elements of the management plan that require documentation. Additional activities that require management planning are described under the relevant indicators. Evidence gathered throughout the audit demonstrates that the management plan is implemented. **GUIDANCE** Management planning is an element of all aspects of the forestry business and evidence of its implementation will present itself during auditing against the rest of the standard. If there is evidence of the management not being implemented, then findings can be raised against this indicator.

Criterion 7.3 The management plan* shall* include verifiable targets* by which progress towards each of the prescribed management objectives* can be assessed. (new)		
Indicators		**Means of verification**
7.3.1	Verifiable targets*, and the frequency that they are assessed, are established for monitoring* the progress towards each management objective*.	The existence of verifiable targets and the monitoring of progress is determined when auditing the relevant criteria. **GUIDANCE** Principle 8 indicates areas where progress against targets can be measured.

Criterion 7.4 The Organization* shall* update and revise periodically the management planning and procedural documentation to incorporate the results of monitoring* and evaluation, stakeholder engagement* or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances. (C7.2 P&C V4)		
Indicators		**Means of verification**
7.4.1	The management plan* is revised and updated periodically consistent with Annex 8 to incorporate: 1) Monitoring* results, including results of certification audits; 2) Evaluation results; 3) Stakeholder engagement* results; 4) New scientific and technical information, and 5) Changing environmental, social, or economic circumstances.	Examine the current and previous version of the management plan to determine if / how the management plan has been updated.

Criterion 7.5 The Organization* shall* make publicly available* a summary of the management plan* free of charge. Excluding confidential information*, other relevant components of the management plan* shall* be made available to affected stakeholders* on request, and at cost of reproduction and handling. (C7.4 P&C V4)		
Indicators		**Means of verification**
7.5.1	A summary of the management plan* in a format comprehensible to stakeholders including maps and excluding confidential information* is made available to the public on request at no cost.	Examine the public summary. Evidence that stakeholders have been made aware of their rights to request the public summary.

		GUIDANCE The manager can indicate in a letter to stakeholders, which will form part of the stakeholder communication process that a summary of the management plan has been prepared and will be available on request. For group schemes: The public summary can form part of the group schemes documentation.
7.5.2	Relevant components of the management plan*, excluding confidential information*, are available to affected stakeholders* on request at the actual costs of reproduction and handling.	Evidence that stakeholders have been made aware of their rights to request elements of the management plan. **GUIDANCE** Confidential information could include the following data and content: - related to investment rights - intellectual property rights - client confidentiality - legal confidentiality - information that could put at risk the protection of certain species and habitats - about sites of special cultural, ecological, economic, spiritual or religious significance to communities as requested by the communities.
Criterion 7.6 The Organization* shall*, proportionate to scale, intensity and risk* of management activities, proactively and transparently engage affected stakeholders* in its management planning and monitoring* processes, and shall* engage interested stakeholders* on request. (C4.4 P&C V4)		
Planning in this context refers to aspects within the operation that influence major objectives linked to the hazards identified in 6.1. Any planning or monitoring requirements linked to these would involve stakeholders such as the following: The EIA process when planting new trees, obstruction of watercourses, alteration to grazing availability, employment conditions and planting of invasive species.		

Indicators		Means of verification
7.6.1	A list of stakeholders is compiled and records of stakeholder engagement are kept.	Stakeholder list. Interviews with stakeholders. Records of stakeholder engagement. MS and LS: Records of ongoing engagement. SLIMF and OM: Contact stakeholders at the start of the 5 year certification period. Thereafter it is unnecessary for all interactions to be recorded. Evidence of ongoing communication could gathered by phoning stakeholders. **GUIDANCE** The following are examples of the stakeholders that should be included: local municipality, neighbours, contractors, user groups, neighbouring community representatives, labour unions, environmental interest groups, local clinics and local schools.
7.6.2	Interested or affected stakeholders are given an opportunity to engage with the monitoring and planning processes for management activities that affect their interests.	MS and LS: Records of stakeholder engagement. SLIMF AND OM: Interviews.
7.6.3	Culturally appropriate* engagement* is used to: 1) Determine appropriate representatives and contact points (including where appropriate, local institutions, organizations and authorities); 2) Determine mutually agreed communication channels allowing for information to flow in both directions; 3) Ensure all actors (women, youth, elderly, minorities) are represented and engaged equitably; 4) Ensure all meetings, all points discussed and all agreements reached are recorded; 5) Ensure the content of meeting records is approved; and	Where forest management is undertaking an activity listed in the NEMA EIA regulations or will have a substantial negative effect on the livelihoods of people, then culturally appropriate engagement* is used as part of an environmental or social impact assessment.

	6) Ensure the results of all culturally appropriate* engagement* activities are shared with those involved.	
7.6.4	On request, interested stakeholders* are provided with an opportunity for engagement* in monitoring* and planning processes of management activities that affect their interests.	Records of stakeholder requests.

PRINCIPLE 8: MONITORING AND ASSESSMENT

The Organization* shall* demonstrate that, progress towards achieving the management objectives*, the impacts of management activities and the condition of the Management Unit*, are monitored* and evaluated proportionate to the scale, intensity and risk* of management activities, in order to implement adaptive management*. (P8 P&C V4)		
In South Africa monitoring is an element of adaptive management that is dispersed throughout the management activities and is not viewed as a separate programme. Monitoring is taken to mean a formal process to detect change and the checking of an operation against targets or standards.		
Criterion 8.1 The Organization* shall* monitor* the implementation of its Management Plan*, including its policies and management objectives*, its progress with the activities planned, and the achievement of its verifiable targets*. (new)		
Evaluation of compliance with this criterion is completed after assessing the monitoring systems, as they pertain to each activity.		
Indicators		**Means of verification**
8.1.1	Procedures are documented and executed for monitoring* the implementation of the management plan* including its policies and management objectives* and achievement of verifiable targets*.	MS and LS: Documented systems for checking and reporting.

Criterion 8.2 The Organization* shall* monitor* and evaluate the environmental and social impacts of the activities carried out in the Management Unit*, and changes in its environmental condition. (C8.2 P&C V4)		
Indicators		**Means of verification**
8.2.1	Stream flow reduction – Reduction in water quantity.	Monitoring of stream flow reduction is done at National level in various catchment experiments which have been used to drive forestry policy since 1972 towards the mitigation of this impact. Due to the complexity and scientific expertise required, this does not require FMU level monitoring. However, if the FMU is a site for such a National level monitoring point, then the organization must demonstrate that it has fulfilled any obligations it may have to the monitoring programme.
8.2.2	Reduction in water quality in natural water bodies.	LS: Work in collaboration with partners to monitor impacts on water quality at a landscape level. Forestry activities that impact on water quality have been identified in the generic risk assessment (See Annex 4). Safeguards for these impacts are included under the relevant criteria. These are, use of fertilizers (10.6), use of chemicals (10.7), uncontrolled fires (10.9.1-10.9.7), soil erosion and sedimentation originating from the road network (10.10.1), hydrocarbon spillage (10.10.5), harvesting and extraction (10.11.1, 10.11.3), management of plantation residues (10.11.2), waste disposal (10.12), soil erosion and sedimentation as a result of cultivation and the use of machinery. (10.5). **GUIDANCE** Organisations such as the River Eco-status Monitoring Programme (REM) of the Department of Water and Sanitation, the Water Research Commission (WRC) and WWF South Africa are involved in larger landscape level or regional water monitoring programmes.

8.2.3	Spread of plantation species outside of the demarcated/planted area: The monitoring of this impact must form part of the cooperative strategy in 10.3.3	Compliance with Indicator 10.3.3
8.2.4	Transformation of land through new afforestation: This is monitored by DWS, DAFF (Agricultural branch) and the DEA (or provincial counterparts) and regulated through the issuing of water use licenses.	Compliance with Indicator 1.3.1
8.2.5	Unplanned fire or wildfires: Monitoring at the landscape scale is undertaken by the FPAs. FMU level monitoring requirements are found under indicator 10.9.1 and 10.9.5.	Compliance with Indicators 10.9.1 and 10.9.5.
8.2.6	Alien and Invasive Species: The requirement to monitor the distribution and density of alien and invasive species is included in 6.6.2 and 10.3.3.	Compliance with Indicators 6.6.2 and 10.3.3
8.2.7	Overgrazing: Where grazing in conservation zones takes place, monitoring to ensure overgrazing is prevented, is undertaken, see 6.6.3.	Compliance with Indicators 6.6.3.
8.2.8	Soil erosion: In areas with sensitive soils where activities may cause soil erosion, monitoring of the effectiveness of preventative and rehabilitation measures is undertaken, see 10.10.2, 10.5.1, 10.5.2, 10.9.4, 10.11.1.	Compliance with Indicators 10.10.2, 10.5.1, 10.5.2, 10.9.4 10.11.1 and 8.2.2.
8.2.9	Biodiversity: Monitoring of priority species is required under 6.4.2. Monitoring of management effectiveness with regard to habitat is required under 6.6.1 for fire management, 6.6.2 for alien plan management and 6.6.3 for grazing management.	Compliance with Indicators 6.4.2, 6.6.1, 6.6.2 and 6.6.3.
8.2.10	Monitoring of socio-economic conditions and the impact of efforts to improve them.	Compliance with Criteria 4.3, 4.4, 4.5

Criterion 8.3 The Organization* shall* analyse the results of monitoring* and evaluation and feed the outcomes of this analysis back into the planning process. (C8.4 P&C V4)		
Indicators		**Means of verification**
8.3.1	Adaptive management* procedures are implemented so that monitoring* results feed into periodic updates to the management plan*.	Managers are able to demonstrate how the results of monitoring have influenced subsequent changes to the management plan and associated documents.
Criterion 8.4 The Organization* shall* make publicly available* a summary of the results of monitoring* free of charge, excluding confidential information*. (C8.5 P&C V4)		
Requirement for monitoring results added to 7.5.1 (Public summary).		
Indicators		**Means of verification**
8.4.1	A summary of the monitoring* results required in C8.2, in a format comprehensible to stakeholders including maps and excluding confidential information*, is made publicly available* at no cost.	Management plan summary, see 7.5.1
Criterion 8.5 The Organization* shall* have and implement a tracking and tracing system proportionate to scale, intensity and risk* of its management activities, for demonstrating the source and volume in proportion to projected output for each year, of all products from the Management Unit* that are marketed as FSC certified. (C8.3 P&C V4)		
Indicators		**Means of verification**
8.5.1	A system is implemented to track and trace all products that are marketed as FSC certified.	Audit of tracking and tracing system.
8.5.2	Information about all products sold is compiled and documented, including: 1) Common and scientific species name; 2) Product name or description; 3) Volume (or quantity) of product;	Audit of documented records of products sold.

	4) Information to trace the material to compartment of origin for large scale operations or FMU for small and medium scale operations. 5) Harvesting period; 6) If processing activities take place in the forest, the date and volume produced; and 7) Whether or not the material was sold as FSC certified.	
8.5.3	Sales invoices or similar documentation are kept for a minimum of five years for all products sold with an FSC claim, which identify at a minimum, the following information: 1) Name and address of purchaser; 2) The date of sale; 3) Common and scientific species name; 4) Product description; 5) The volume (or quantity) sold; 6) Certificate code; and 7) The FSC Claim “FSC 100%” identifying products sold as FSC certified.	Audit of sales invoices and related records.

PRINCIPLE 9: HIGH CONSERVATION VALUES

The Organization* shall* maintain and/or enhance the High Conservation Values* in the Management Unit* through applying the precautionary approach*. (P9 P&C V4)
Criterion 9.1 "The Organization*, through engagement* with affected stakeholders*, interested stakeholders* and other means and sources, shall* assess and record the presence and status of the following High Conservation Values* in the Management Unit*, proportionate to the scale, intensity and risk* of impacts of management activities, and likelihood of the occurrence of the High Conservation Values*: **HCV 1 – Species diversity. Concentrations of biological diversity* including endemic species, and rare*, threatened* or endangered species, that are significant* at global, regional or national levels.**

HCV 2 – Landscape*-level ecosystems* and mosaics. Intact forest landscapes and large landscape*-level ecosystems* and ecosystem* mosaics that are significant* at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance. **HCV 3 – Ecosystems* and habitats*. Rare*, threatened*, or endangered ecosystems*, habitats* or refugia*.** **HCV 4 – Critical* ecosystem services*. Basic ecosystem services* in critical* situations, including protection* of water catchments and control of erosion of vulnerable soils and slopes.** **HCV 5 – Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities* or indigenous peoples* (for livelihoods, health, nutrition, water, etc.), identified through engagement* with these communities or indigenous peoples*.** **HCV 6 – Cultural values. Sites, resources, habitats* and landscapes* of global or national cultural, archaeological or historical significance, and/or of critical* cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities* or indigenous peoples*, identified through engagement* with these local communities* or indigenous peoples*. (C9.1 P&C V4 and Motion 2014#7)"**
HCV in South African plantations Pertaining to the application of Principle 9, the precautionary approach* has been interpreted as follows; *where there is reason to believe that management activities pose a threat of severe or irreversible damage to HCVs, the Organization* will take measures to prevent the damage, even when the scientific information is inconclusive*. However, P9 goes further than preventing severe or irreversible damage, in requiring the organization to maintain and/or enhance the HCVs occurring in the FMU. In order to understand how HCV, in the light of the precautionary approach is applied in the plantation context in South Africa, the following points must be noted: 1. As confirmed by the generic risk assessment, there is a significant risk of severe or irreparable damage only when new plantations are established. 2. For all management activities that take place in the production of timber, the impacts are mitigated through the application of the standard. 3. The conservation zones are managed with the principle objective to maintain or enhance the conservation values. It follows that the requirement to identify outstanding conservation values only apply prior to *new* afforestation. Afforestation in South Africa is highly regulated. In order to afforest an area the following authorizations are required: 1. A water use license under the National Water Act (No. 36 of 1998). 2. An Environmental Impact Assessment under the National Environmental Management Act (No. 107 of 1998).

3. A heritage assessment under the National Heritage Resources Act (No. 25 of 1999).
4. Approval from the Department of Agriculture, Forestry and Fisheries under the Conservation of Agricultural Resources Act (No. 43 of 1983).

Authorization will not be granted if there is a risk of severe or irreversible impacts to HCV's. These processes guarantee protection of the HCVs in the following ways:

HCV1 - Species Diversity. During the EIA, approval is required from the Provincial Conservation Agencies. These agencies have provincial systematic conservation plans which are used to assist in the screening of applications. These plans have extensive species location data as well as the modelled distribution of species. Approval will not be granted for the conversion of areas that could be categorized as HCV 1. Comprehensive stakeholder input is required as part of the EIA process.

HCV2 - Landscape-level ecosystems. The systematic conservation plans consider landscape level ecosystems through the incorporation of, amongst other data, the National Critical Biodiversity Areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan.

HCV3 - Ecosystems and habitats. The systematic conservation plan incorporates the nationally protected ecosystems according to the National Environmental Management Act (No. 107 of 1998) and the national Vegetation-types (Mucina and Rutherford, 2006).

HCV 4: Critical Ecosystem Services. The biggest impact of afforestation on ecosystem services is by reducing the amount of water available to downstream users. This is protected through the requirement for a water use license (described above) which is only granted once it has been determined that there is sufficient water available in the catchment. The EIA also considers the impact that water might have on water quality, soil erosion, availability of grazing and other resources, covering all potential HCV 4s in the South African context (Refer to the generic risk assessment in App 4). Furthermore the systematic conservation plans incorporate Ecological Support Areas. Ecological Support Areas are not essential for meeting biodiversity targets, but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services. Critical Biodiversity Areas and Ecological Support Areas may be terrestrial or aquatic.

HCV 5: Community needs. Community needs are protected through the stakeholder engagement process which forms part of the EIA Process. Through this process, all community needs will be identified and considered.

HCV 6: Cultural values. The heritage assessment required by the National Heritage Resources Act (No. 25 of 1999) ensures that cultural values are protected from the impacts of afforestation.

All these processes require stakeholder engagement through the overarching EIA process.

Following the precautionary approach, and given that there is no reason to believe that management activities pose a threat of severe or irreversible damage to HCVs, it is therefore not necessary to conduct assessments for HCVs. In the South African context, measures required in the standard to protect conservation values are sufficient to maintain or enhance HCVs. The Standard requires that conservation values are prioritized and that planning and monitoring takes place proportionate to the potential impacts to the high conservation values. The SA standard

describes where each of these values are protected. In conclusion: For new afforestation, the authorization processes required by legislation ensure that HCVs are protected. For existing afforestation the requirements of the standard ensure their maintenance and enhancement.		
Indicators		**Means of verification**
9.1.1	An assessment is completed using Best Available Information* that records the location and status of High Conservation Value* Categories 1-6, as defined in Criterion* 9.1; the High Conservation Value Areas* they rely upon, and their condition.	These are met through compliance with the following indicators: **HCV 1 – Species diversity:** Indicator 6.4.1 requires that priority species* are identified Indicator 6.5.2 requires that conservation zones are prioritized according to conservation value. Areas with high species diversity will be accorded higher conservation value. **HCV 2 – Landscape* level ecosystems* and mosaics:** No single conservation zone within an FMU in South Africa is large enough to be considered as a landscape level ecosystem. Data from the SANBI Grasslands Programme planning tool shows that the largest conservation zone within forestry FMUs in South Africa is 1250ha. Even the most precautionary estimates would require over 10 000 ha for a landscape level ecosystem. However, Conservation Zones on plantation landholdings do often form part of larger landscape level ecosystems. The systematic conservation planning outputs that are required to be used by MS and LS organizations in Indicator 6.5.2 take into account the conservation value in relation to the landscape. In this way the contribution that the conservation zones within the FMU make to the landscape is considered. For this reason, compliance with HCV 2 is deemed to have been met through compliance with Indicator 6.5.2. **HCV 3 – Ecosystems* and habitats*:** Indicators 6.4.1, 6.5.1, 6.5.2 require that habitats/representative ecosystems are all designated as conservation zones and prioritized

		according to conservation value, guided by systematic conservation planning. Systematic conservation planning takes into account the conservation status of ecosystems, the presence of habitats and refugia*, amongst many other data layers. **HCV 4 – Critical* ecosystem services*:** The risk assessment in Annex 4 identified that the following basic ecosystem services are associated with plantation forestry relevant to HCV 4: Water Quantity, Water Quality, Soil Retention. Any conservation values related to the supply of basic ecosystem services are identified in the following indicators: 6.7: Wetlands and riparian areas are identified as ecosystems associated with delivering quality water. 10.5.1 and 10.5.2 and 10.11.1: Soils sensitive to erosion are required to be identified. Soil erosion results in the loss of soil and causes sedimentation of natural water bodies. **HCV 5 – Community needs:** These values are identified through compliance with the following indicators: 4.1.3 and 5.1.1 **HCV 6 – Cultural values:** These values are protected by the implementing Indicator 4.7.2
9.1.2	The assessment uses results from culturally appropriate* engagement* with affected* and interested stakeholders* with an interest in the conservation* of the High Conservation Values*.	The previously cited indicators include the requirements for engagement with stakeholders for all conservation values.

Criterion 9.2 The Organization* shall* develop effective strategies that maintain and/or enhance the identified High Conservation Values*, through engagement* with affected stakeholders*, interested stakeholders* and experts. (C9.2 P&C V4)		
Indicators		**Means of verification**
9.2.1	Threats to High Conservation Values* are identified using Best Available Information*.	The threats to Conservation Values are identified in a risk assessment required in Indicator 6.1.1 and the requirement to assess scale, intensity and risk and prioritize, these are included in Indicator 6.2.1. Refer to Annex 4.
9.2.2	Management strategies and actions are developed to maintain and/or enhance the identified High Conservation Values* and to maintain associated High Conservation Value Areas* prior to implementing potentially harmful management activities.	The management strategies required are addressed through compliance with the following indicators corresponding to each of the HCVs: HCV 1: Species diversity: Indicator 6.6.6 HCV 2: Landscape level ecosystems: Indicator 6.5.2 (See guidance to Indicator 9.1.1.2). HCV 3: Ecosystems and habitats: Indicator 6.5.2. HCV 4: Critical ecosystem services: 6.7.1 (Water quantity and quality) and Soil (Indicators 10.5.1 and 10.5.2). HCV 5: Community needs: Indicator 4.1.3. HCV 6: Cultural Values: Indicator 4.7.3.
9.2.3	Affected* and interested stakeholders* and experts are engaged in the development of management strategies and actions to maintain and/or enhance the identified High Conservation Values*.	The requirements for engagement with interested stakeholders and experts are included in the following indicators corresponding to each of the HCVs: HCV 1: Species diversity: Indicator 6.6.6. HCV 2: Landscape level ecosystems: Indicators 6.5.1 and 6.5.2. HCV 3: Ecosystems and habitats: Indicators 6.5.1 and 6.5.2. HCV 4: Critical ecosystem services: Indicators 6.7.1 (Water quantity and quality) and Soil (10.5.1 and 10.5.2). HCV 5: Community needs: Indicators 4.1.3. HCV 6: Cultural Values: Indicators 4.7.3.

Criterion 9.3 The Organization* shall* implement strategies and actions that maintain and/or enhance the identified High Conservation Values*. These strategies and actions shall* implement the precautionary approach* and be proportionate to the scale, intensity and risk* of management activities. (C9.3 P&C V4)		
Indicators		**Means of verification**
9.3.1	The High Conservation Values*and the High Conservation Value Areas* on which they depend are maintained and/or enhanced, including by implementing the strategies developed.	The requirements for the management of Conservation values are included in the following indicators corresponding to each of the HCVS: HCV 1: Species diversity: Indicators 6.6.1, 6.6.2, 6.6.3, 6.6.4, 6.6.5 and 6.6.6. HCV 2: Landscape level ecosystems: Indicators 6.6.1, 6.6.2, 6.6.3, 6.6.4, 6.6.5 and 6.6.6. HCV 3: Ecosystems and habitats: Indicators 6.6.1, 6.6.2, 6.6.3, 6.6.4, 6.6.5 and 6.6.6. HCV 4: Critical ecosystem services: Criteria 6.7, 10.3, 10.5, 10.6, 10.9, 10.10, 10.11, 10.12. HCV 5: Community needs: Indicator 4.1.3. HCV 6: Cultural Values: Indicator 4.7.3 and 4.7.4.
9.3.2	The strategies and actions prevent damage and avoid risks to High Conservation Values*, even when the scientific information is incomplete or inconclusive, and when the vulnerability and sensitivity of High Conservation Values* are uncertain.	The risk assessment (Annex 4) required in 6.1 and 6.2 allows the organization to identify the risks to Conservation Values. This is a precautionary approach in that it requires all conservation values to be considered regardless of absolute value. The general requirement to prevent negative impacts are included in 6.3.2 and the specific requirements for assessing the effectiveness of measures to prevent damage to conservation values are included in the following indicators corresponding to each of the HCVS (as above): HCV 1: Species diversity: Indicators 6.6.1, 6.6.2, 6.6.3, 6.6.4, 6.6.5 and 6.6.6. HCV 2: Landscape level ecosystems: Indicators 6.6.1, 6.6.2, 6.6.3, 6.6.4, 6.6.5 and 6.6.6. HCV 3: Ecosystems and habitats: Indicators 6.6.1, 6.6.2, 6.6.3, 6.6.4,

		6.6.5 and 6.6.6. HCV 4: Critical ecosystem services: Criteria 6.7, 10.3, 10.5, 10.6, 10.9, 10.10, 10.11, 10.12. HCV 5: Community needs: Indicator 4.1.3. HCV 6: Cultural Values: Indicators 4.7.3 and 4.7.4.
9.3.3	Activities that harm High Conservation Values* cease immediately and actions are taken to restore* and protect the High Conservation Values*.	
Criterion 9.4 The Organization* shall* demonstrate that periodic monitoring* is carried out to assess changes in the status of High Conservation Values*, and shall* adapt its management strategies to ensure their effective protection*. The monitoring* shall* be proportionate to the scale, intensity and risk* of management activities, and shall* include engagement* with affected stakeholders*, interested stakeholders* and experts. (C9.4 P&C V4)		
Indicators		**Means of verification**
9.4.1	A program of periodic monitoring* assesses: 1) Implementation of strategies; 2) The status of High Conservation Values* including High Conservation Value Areas* on which they depend; and 3) The effectiveness of the management strategies and actions for the protection* of High Conservation Value* to fully maintain and/or enhance the High Conservation Values*.	HCV 1: Indicator 6.6.6 Priority species must be monitored. HCV 2: Indicator 10.3.3 Spread of plantation species outside of plantation. HCV 2: Indicators 10.9.1 and 10.9.5 Impacts of wild fires. HCV 3: Indicator 6.6.2 Requires monitoring of progress of programme to eradicate listed weeds [Guidance]. HCV 3: Indicator 6.6.3 Monitoring of grazing areas and impacts on streams or wetlands HCV 4: Indicator 8.2.1 Stream flow reduction. HCV 4: Indicator 8.2.2 Water quality. HCV 4: Indicators 10.10.2, 10.5.1, 10.5.2, 10.9.4, 10.11.1, 8.2.2 Sensitive soils. HCV 5: Indicators 4.4, 4.5.1, 4.6, Socio-economic conditions. HCV 6: Sites important to local communities.
9.4.2	The monitoring* program includes engagement* with affected* and interested stakeholders* and experts.	Addressed by Indicator 7.6.2 Opportunities for stakeholders to engage in monitoring programme.

9.4.3	The monitoring* program has sufficient scope, detail and frequency to detect changes in High Conservation Values*, relative to the initial assessment and status identified for each High Conservation Value*.	This is assessed during the assessment of Indicator 9.4.1.
9.4.4	Management strategies and actions are adapted when monitoring* or other new information shows that these strategies and actions are insufficient to ensure the maintenance and/or enhancement of High Conservation Values*.	Management plans.

PRINCIPLE 10: IMPLEMENTATION OF MANAGEMENT ACTIVITIES

Management activities conducted by or for The Organization* for the Management Unit* shall* be selected and implemented consistent with The Organization*'s economic, environmental and social policies and objectives* and in compliance with the Principles* and Criteria* collectively. (new)
Criteria cover all the production related management activities categorized into silviculture* (10.1-10.8), natural hazards (10.9), environmental impacts of operations (10.10), harvesting (10.11) and Waste disposal (10.12).
Criterion 10.1 After harvest or in accordance with the management plan*, The Organization* shall*, by natural or artificial regeneration methods, regenerate vegetation cover in a timely fashion to pre-harvesting or more natural conditions* .(new)
In South Africa regeneration is referred to as re-establishment. This can be through planting of seedlings or rooted cutting, sowing seed, coppicing, or allowing existing seeds to geminate (known as natural regeneration). In the case of coppicing and natural regeneration the timing is out of the manager's control. For planting seedlings or rooted cuttings and sowing of seed the aim is to re-establish as soon after harvesting as the climatic conditions will allow. Pre-harvest conditions would include any plantation establishment of any species that is legally grown in South Africa.

Indicators		Means of verification
10.1.1	Harvested timber areas are re-established within a year of felling unless the intention is to re-establish the natural habitat for ecological reasons.	Field observations. MS and LS: Examine harvesting and planting records. **GUIDANCE** The goal should be to re-establish as soon as possible. Delays in re-establishment must be justified. In the case of planning to re-establish the natural habitat refer to Indicator 6.6.4.
10.1.2.	Regeneration activities* are implemented in a manner that: 1) For harvest of existing plantations*, regenerate to the vegetation cover that existed prior to the harvest or to more natural conditions* using ecologically well-adapted species.	Field observation and management plans. **GUIDANCE** Vegetation cover in this case refers to plantations in general.
Criterion 10.2 The Organization* shall* use species for regeneration that are ecologically well adapted to the site and to the management objectives*. The Organization* shall* use native species* and local genotypes* for regeneration, unless there is clear and convincing justification for using others. (C10.4 and C10.8 P&C V4)		
The South African plantation industry, like most others, is based on fast growing genetically improved species of exotic trees. In the South African context the choice of species is largely determined by the market and the ability of the site to support an economically acceptable yield. Currently the use of indigenous species would render the South African timber industry uncompetitive globally.		
Indicators		**Means of verification**
10.2.1	There is 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.	Evidence that the key factors governing species choice have been considered. If there is reason to believe the incorrect species have been chosen then further requirements for evidence such as soil maps, climate data and so on should be requested.

		GUIDANCE Species choice is governed by site, fire risk, market and risk of disease. The invasiveness of the species also needs to be considered in line with Indicator 10.3. Consideration for climate change and its impacts on site, such as increasing risk of drought and disease. This indicator can be used to support Criterion 6.8. Support for research such as that done by the ICFR funded by FSA implies support for this work.
Criterion 10.3 The Organization* shall* only use alien species* when knowledge and/or experience have shown that any invasive impacts can be controlled and effective mitigation measures are in place. (C6.9 and C10.8 P&C V4)		
The South African forestry industry uses a number of species that are known to be invasive. However, these were introduced many years ago. Plantation establishment and control of their spread is regulated through the NEMA EIA Regulations, National Environmental Management: Biodiversity Act (No. 10 of 2004), Invasive Alien Plant Regulations and the National Water Act. (Act 36 of 1998). Landowners are by law required to control the spread of alien plants on their properties. There are dedicated government programmes, most prominently, The Working for Water Programme, directed towards working with landowners to manage invasive alien plant spread. The indicators have been designed with this context in mind. If new species are introduced then according to NEMBA they would have to be screened for invasiveness..		
Indicators		**Means of verification**
10.3.1	Alien species* are used only when direct experience and / or the results of scientific research demonstrate that invasive impacts can be controlled. This does not apply to plants currently permitted for plantation use in the NEMBA (No. 10 of 2004) Alien and Invasive Species List, 2015.	Management plans. **GUIDANCE** Refer to the NEMBA (No. 10 of 2004) Alien and Invasive Species List, 2015). New plantation (established after 1 October 2014) will require a permit for a restricted activity, under NEMBA (No. 10 of 2004) Alien and Invasive Species Regulations, 2014 and as such will require a Risk Assessment as part of the application for such a permit.
10.3.2	The organization has determined if the species they intend to grow or are growing are known to be invasive, and if so have appraised the landscape for signs that these may be a source of invasion.	**MEANS OF VERIFICATION** The category of the species grown is known (According to NEMBA (No. 10 of 2004) Alien and Invasive Species List, 2015).

		A visual assessment has been undertaken to determine if the plantations are a source of invasion in the landscape. This can be verified infield. **GUIDANCE** Refer to the NEMBA (No. 10 of 2004) Alien and Invasive Species List, 2014. The appraisal of the landscape could include the following: There is evidence that on neighbouring lands there are trees that clearly originated from the FMU. It might be clearer in water courses, disturbed land or on lands downwind from the FMU. In some landscapes it may be impossible to determine if the FMU is the source of the invasion, for example, in heavily afforested areas it may be difficult to apportion responsibility to a particular landowner. In such cases the auditor must evaluate the situation on a case by case basis.
10.3.3	Where 10.3.1 is relevant then the organization shows progression towards reducing the invasiveness of their plantations.	For LS this could include: -Changing species -Biological control -Investing in the development of sterile clones -Silvicultural practices, e.g. harvesting before flowering - alien and invasive plant control plans -creating buffers of national vegetation of water courses and wetlands (required under C6.7) For small and medium organizations: -the focus will be on alien and invasive species control - silvicultural practices - management of water-courses and wetlands
10.3.4	Where under 10.3.1 the FMU is a source of invasion then the organization is part of a cooperative and strategic approach with other land users and	Evidence of the strategic plans and implementation. **GUIDANCE** This strategy should include:

	organizations to eradicate invasive plantation species from the landscape beyond the FMU.	- A dedicated budget for alien plant eradication-Investment in biological control -Strategic use of resources -Use of spatial prioritization -Community involvement -Opportunities for beneficiation -Monitoring the of effectiveness of the programme
Criterion 10.4 The Organization* shall* not use genetically modified organisms* in the Management Unit*. (C6.8 P&C V4)		
GMO are not currently used commercially anywhere in South Africa.		
Indicators		**Means of verification**
10.4.1	Genetically modified organisms* are not used.	GMOs are not used in commercial forestry in South Africa.
Criterion 10.5 The Organization* shall* use silviculture practices that are ecologically appropriate for the vegetation, species, sites and management objectives*. (new)		
In South Africa, “ecologically appropriate” refers to the maintenance of site productivity through successive rotation. The primary focus is on protection of soil which is influenced by site preparation, weeding, planting and residue management. Moderate risk activities in site preparation include ripping and mechanized planting.		
Indicators		**Means of verification**
10.5.1	Soil is protected through the implementation of responsible residue management.	MS and LS: Documented policy and procedures. Manager demonstrates understanding of risks of residue management practices, and of the practices required to avoid or minimise these risks. Examine systems to categorize site sensitivity. Inspection of post-harvest sites to verify compliance. SLIMF and OM: Inspection of post-harvest sites. Manager demonstrates understanding of risks of residue management practices, and of the practices required to avoid or minimise these risks. Manager demonstrates knowledge regarding which sites are sensitive. Field inspections of high risk sites to verify compliance.

		Group Schemes: Should include policies and procedures in group management system. **GUIDANCE** Plantation residues should be retained on site wherever possible. The choice of residue management practice should be guided by slope and soil sensitivity and fire risk. Reference South African Environmental Guidelines. Chapter 6.6 Residue Management.
10.5.2	Soil is protected through implementation of responsible site preparation and other silvicultural practices.	MS and LS: Policy and procedures regarding site preparation and other silviculture practices. Examine systems to categorize site sensitivity. Field inspections to verify compliance. SLIMF and OM: Field inspections of high risk sites to verify compliance. Group Schemes: Policies and procedures in group management system. **GUIDANCE** High risk activities include mechanical site preparation e.g. ripping, ploughing, terracing, etc. Refer to the FSA Environmental Guidelines (Chapters 6 to 8)
10.5.3	Where there is evidence for a loss of productivity over successive rotations that can be attributed to reduction in site quality, action is taken to restore site quality.	Growth data. Evaluate actions taken if data reveals loss in production. **GUIDANCE** Activities could include actions to limit loss of soil organic matter such as limiting soil erosion and preventing high intensity fires when burning residues.

Criterion 10.6 The Organization* shall* minimize or avoid the use of fertilizers*. When fertilizers* are used, The Organization* shall* demonstrate that use is equally or more ecologically and economically beneficial than use of silviculture systems that do not require fertilizers, and prevent, mitigate, and/or repair damage to environmental values*, including soils. (C10.7 P&C V4 and Motion 2014#7)		
Fertilizer use in South African plantation forestry is very low compared with other agricultural land uses**. It is generally only used during planting and then only around the seedling and in nurseries. Fertiliser use in nurseries is deemed to be negligible risk, due to the small amounts used. In-field fertilization does not present a significant risk to environmental values and human health, and is deemed to be low risk in the generic risk assessment in Annex 4. **In forestry, fertilizer is used at an average rate of approximately 10kg/ha/year, whereas an average agricultural application would be around 100 kg/ha/year in maize and up to 450 kg/ha/year in vegetables (FAO, 2006). Research has shown the use of fertilizers after planting to be unviable economically* and therefore is not current practice in South African forestry.		
Indicators		**Means of verification**
10.6.1	The use of fertilizers* is minimized or avoided.	The use of fertilizers are according to accepted industry protocols. MS and LS: Procedures and records of application. SLIMF and OM: Interviews with managers. **GUIDANCE** See FSA Environmental Management Guidelines for Plantation Forestry in South Africa Chapter 6.4 Fertiliser Application.
10.6.2	When fertilizers* are used, their ecological and economic benefits are equal to or higher than those of silvicultural systems that do not require fertilizers*.	**GUIDANCE** Ecological benefit in this case is to restore the nutrient balance. There are currently nutrient depletion studies done at ICFR which are studying the effects of fertilizers.
10.6.3	When fertilizers* are used, their types, rates, frequencies and site of application are documented.	Records of fertilizer use.

10.6.4	When fertilizers* are used, environmental values* are protected, including through implementation of measures to prevent damage.	Records (e.g. records of chemical use in the forest management unit). Interviews.
10.6.5	Damage to environmental values* resulting from fertilizer* use is mitigated or repaired.	Records (e.g. records of chemical use in the forest management unit). Interviews.

Criterion 10.7 The Organization* shall* use integrated pest management and silviculture* systems which avoid, or aim at eliminating, the use of chemical pesticides*. The Organization* shall* not use any chemical pesticides* prohibited by FSC policy. When pesticides* are used, The Organization* shall* prevent, mitigate, and / or repair damage to environmental values* and human health. (C6.6 and C10.7 P&C V4)

South African context: Chemical pesticides are used in response to specific threats which can vary over time. A progressive reduction is therefore not guaranteed. In South Africa more efficient use of chemicals through integrated pest and alien plant control must be an objective of the FMU. Under stable conditions, an integrated approach will lead to a reduction in chemical pesticide use.

Indicators		**Means of verification**
10.7.1	Records of pesticide* usage are maintained: 10.7.1.1 For chemicals that are used as part of regular silvicultural procedures, the following must be recorded; trade name, active ingredient, quantity used. 10.7.1.2 For pesticides that are used in response to a direct threat e.g. for outbreak of a pest, the following needs to be recorded: trade name, active ingredient, quantity, period of use, location of use and reason for use.	Examine records. **GUIDANCE** FSA Environmental Management Guidelines for Plantation Forestry- Chapter 5 Integrated Pest Control.

10.7.2	Chemical pesticides* prohibited by FSC's Pesticide Policy are not used or stored on the Management Unit* unless the FSC has granted derogation.	Records of chemical pesticides used and stored as per approved pesticide list. Inspection of chemical stores and infield use**.** **GUIDANCE** Refer to TPWG list of permitted chemicals. If the chemical pesticide is not on TPWG list, refer to FSC Pesticide Policy. Mixed farms that have a single chemical store must designate the area for the storage of plantation related chemicals which must be distinct from other agricultural chemicals.
10.7.3	The use of pesticides* complies with the South African legislation for the transport, storage, handling, use and application and emergency procedures for clean-up following accidental spillages.	Inspect chemical stores or field sites for: - Emergency procedure - PPE requirements - Measures for prevention, containment or mitigation of spillages - Evidence of training of workers. - The Material Safety Data Sheet for all chemicals. - Refer to MSDS for specific requirements for each chemical pesticides. **GUIDANCE** For contractors spraying chemicals there must be a registered Pest Control Operator. The South African legislation exceeds the ILO requirements for all aspects of chemical use. The use of pesticides is regulated through the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (No. 36 of 1947). See FSA Environmental Guidelines 5.3-5.6.
10.7.4	Integrated pest management, including silvicultural* systems, lead to more efficient use of chemicals.	SM and LS**:** Documented integrated pest management (IPM) programmes and evidence of implementation. SLIMF AND OM: Must be able to describe what IPM approaches they employ.

		Evidence of chemical pesticide reduction strategy. Group Schemes: May have a group IPM strategy in the group management system. **GUIDANCE** Refer to the following FSC Technical Series: FSC Technical Series No. 2009 – 001: Guide to Integrated Pest Disease and Weed Management in FSC Certified Forests and Plantations. FSA Environmental Management Guidelines for Plantation Forest Management Chapter 5- Integrated Pest Management - lists 6 basic principles of Integrated Pest Management.
10.7.5	If pesticides* are used, application methods minimize quantities used, while achieving effective results, and provide effective protection* to surrounding landscapes*.	Integrated pest management. Records of pesticide use. Interviews. Field inspections. Inspections of chemical storage areas.
10.7.6	Damage to environmental values* and human health from pesticide* use is prevented and mitigated or repaired where damage occurs.	Integrated pest management. Records of pesticide use. Interviews. Field inspections. Inspections of chemical storage areas.

10.7.7	When pesticides* are used: 1) The selected pesticide*, application method, timing and pattern of use offers the least risk to humans and non-target species; and 2) Objective evidence demonstrates that the pesticide* is the only effective, practical and cost effective way to control the pest.	Integrated pest management. Records of pesticide use. Interviews. Field inspections. Inspections of chemical storage areas.
Criterion 10.8 The Organization* shall* minimize, monitor* and strictly control the use of biological control agents* in accordance with internationally accepted scientific protocols*. When biological control agents* are used, The Organization* shall* prevent, mitigate, and/or repair damage to environmental values*. (C6.8 P&C V4)		
In South Africa biological control agents are widely promoted and used to control alien invasive species and forestry and agricultural pests and diseases. In South Africa legislation strictly controls the evaluation and release of agents and therefore the risks to the environment are low. Agents are assessed, released and monitored by government or research institutions such as the Plant Protection Research Institute (PPRI) or Forestry and Agricultural Biotechnology Institute (FABI).		
Indicators		**Means of verification**
10.8.1	The use of biological control agents* is minimized, monitored* and controlled.	Records. Integrated pest management plan. Interviews.
10.8.2	Use of biological control agents* complies with internationally accepted scientific protocols*.	Evidence that release of biocontrol agents was by an authorized organization. **GUIDANCE** NEMA requires EIAs before release of biological agents. International protocols require: 1. that the use of biological control agents* is recorded including type, quantity, date of deployment, location and reason for use. 2. damage to environmental values* caused by the use of biocontrol agents* is prevented and mitigated or repaired where damage occurs.

10.8.3	The use of biological control agents* is recorded including type, quantity, period, location and reason for use.	Records. Integrated pest management plan. Interviews.
10.8.4	Damage to environmental values* caused by the use of biological control agents* is prevented and mitigated or repaired where damage occurs.	Records. Integrated pest management plan. Interviews. Field visits.
Criterion 10.9 The Organization* shall* assess risks* and implement activities that reduce potential negative impacts from natural hazards* proportionate to scale, intensity, and risk*. (new)		
The impacts of natural hazards have been assessed in the industry level risk assessment. The most significant of these are uncontrolled fires, pests, disease, drought and damage causing animals and each of these are served with a separate set of indicators. Flooding is also a natural hazard and its mitigation is implicit in the design of the plantation infrastructure to withstand flood events (10.10).		
Indicators		**Means of verification**
10.9.1	Hazard: Uncontrolled Fires - Records of past uncontrolled fires are kept and trends examined.	MS and LS: Documented records of past fires which include; number of fires, extent of damage, and examination of causes and analysis of trends. SLIMF and OM: Interview to determine if manager has understanding of the causes and risks of fires (Cross reference with 8.2.8). Evidence of how the management plan has been modified as a result of analysis of past fires. **GUIDANCE** FSA Environmental Management Guidelines for Plantation Forests Chapter 4.9 Fire Protection and Chapter 4.10 Conservation Fire Plan/Veld Burning.
10.9.2	Hazard: Uncontrolled Fires - There is a comprehensive fire risk management strategy that is implemented.	MS and LS: Documented fire management strategy. SLIMF and OM: Interview on fire management strategy. Managers must be active members of FPA.

		GUIDANCE A fire risk management strategy should include: 1. Fire Protection Organisation - Schedules of activities necessary for fire preparedness, a pre-season check list 2. Firebelts And Controlled Burning - Details of internal and external breaks, clearly shown on maps. Legal requirements and Insurance warranties 3. Fire Management - Standby duty arrangements - Special precautions for orange/red Fire Danger Index (FDI) - Action plans and call-out procedures and aircraft operations - KNFPA operations plan (if a member) - Resource lists, including neighbour contact numbers and equipment. 4. Fire Reports - Statistical reports of fire incidence and post mortems (This is done via the FPA) 5. Standards - Radios, Lookouts, Water supplies, Fire equipment, Fire tenders, Training and Fire belts. 6. Aspects Which Contribute To Decreased Fire Risk Forestry management contributes to conditions which reduces the risk of uncontrolled fires and limits the extent of their damage. The following are examples of aspects that influence fire risk: Community relations, road maintenance, and management of conservation zones, alien plant control, residue management and road density. 7. Ecological Considerations Refer to Indicator 6.6.1.

10.9.3	Hazard: Uncontrolled Fires - Those responsible for implementing the fire management strategy are capable.	MS and LS: Up-to-date training records. SLIMF and OM: Formal training for manager or must be able to demonstrate high levels of experience. In-house training for general staff. Interviews with staff. **GUIDANCE** There should be an experienced fire chief, a competent manager and well trained staff.
10.9.4	Hazard: Uncontrolled Fires - The organization is a member of the Fire Protection Association in all areas that the FMU occupies.	Evidence of FPA membership and participation. **GUIDANCE** The National Veld and Forest Fire Act, 1998 outlines the functions and requirements for membership of the FPA.
10.9.5	Hazard: Uncontrolled Fires - Measures shall be taken to monitor and limit environmental damage after the occurrence of uncontrolled fires.	MS and LS: Documented procedures that cover rehabilitation after damage from uncontrolled fires. Evidence of implementation and monitoring. SLIMFS and OM: Interview - Actions taken to rehabilitate damage caused by wildfires and infield evidence if possible. **GUIDANCE** Damage from wildfires present a high risk to all the conservation values associated with the FMU. Rehabilitation plans should cover the major risks for the FMU. A focus for rehabilitation would be on arresting soil erosion and the resulting sedimentation of freshwater ecosystems. Burning regimes for grasslands and fynbos could be interrupted and would need to be adjusted. Hot uncontrolled or unseasonal fires could result in damage to indigenous forest patches and other sensitive ecosystems.
10.9.6	Hazard: Pests And Diseases - Managers inspect plantations for evidence of ill-health and damage and take appropriate action.	MS and LS: Evidence of efforts to identify, monitor and manage specified pests and diseases e.g. use of FABI identification aids. Maps or records of occurrence of pests and diseases.

		SLIMF AND OM: Interview - Managers can recognize the major pests and diseases that affect the species they grow and know what action to take in case of infestations. **GUIDANCE** This should form part of the Integrated Pest Management Strategy in 10.7.4. Support to managers is available from FABI.
10.9.7	Hazard: Pests And Diseases - New outbreaks and spread of specified pests and disease are reported to the relevant authority or organization.	New pest incidents are reported to the Tree Protection Co-operative Programme (TPCP).
10.9.8	Hazard: Damage Causing Animals - Where damage-causing animals (e.g. baboons, bush pigs, antelope & rodents) pose a significant threat to the productivity of the plantation, they are controlled according to recommended protocols and in line with legislation.	Assessment of damage has taken place and shown that productivity is significantly affected. MS and LS: Clear policy and procedure and evidence of implementation. Records to show losses suffered is sufficient justification for chosen control measures. SLIMF and OM: Interview - Managers have a systematic approach to controlling damage causing animals. **GUIDANCE** Non-chemical controls are used where available. Non-lethal control options have been attempted first. Where not effective, other means approved by conservation authorities are implemented. SA Environmental Guidelines for Commercial Forestry Plantations in South Africa Chapter 5.1 Damage Causing Animals.

Criterion 10.10 The Organization* shall* manage infrastructural development*, transport activities and silviculture* so that water resources and soils are protected, and disturbance of and damage to rare and threatened species*, habitats*, ecosystems* and landscape values* are prevented, mitigated and/or repaired. (C6.5 P&C V4)		
The focus of this criterion is on infrastructure, hydrocarbon spillage and road maintenance. Aspects related to silviculture are found in C10.5.		
Indicators		**Means of verification**
10.10.1	Development, maintenance and use of infrastructure*, as well as transport activities, are managed to protect environmental values* identified in Criterion* 6.1. and withstand impacts of flooding.	Guidelines incorporating best practice to minimize environmental damage caused by the road network including impacts resulting from road construction and maintenance are followed. Inspection of roads. **GROUP SCHEMES:** Guidelines can be part of the group certification scheme or reference can be made to existing guidance. **GUIDANCE** This guidance should include as a minimum the following aspects: 1. Minimising the road density, without compromising harvest and transport systems. 2. Low impact construction and maintenance techniques including the use of equipment and methods that minimise environmental impacts and the risk of sedimentation. 3. The construction and upgrade of crossings to ensure stream flow and the passage of aquatic as well as preventing prevent bank scouring and impoundments. 4. The setback distances specified for wetlands, water bodies and watercourses in Criterion 6.7 apply to roads and other infrastructural developments.

		FSA Environmental Guidelines for Commercial Forestry Plantations in South Africa, Chapter 9 Environmental Aspects of Roads.
10.10.2	Silviculture* activities are managed to ensure protection of the environmental values* identified in Criterion* 6.1.	Guidelines incorporating best practice shall be prepared and implemented for operations with a high risk of erosion to minimize and control induced erosion. Group Schemes: Guidelines can be part of the group certification scheme or reference can be made to existing guidance. **GUIDANCE** FSA Environmental Guidelines for Commercial Forestry Plantations in South Africa, Chapter 6: Environmental aspects of Silviculture.
10.10.3	Measures shall be taken to prevent hydrocarbon pollution and remediate areas in the event of spillage.	Fuel stores are managed according to legal requirements. Procedures are in place to avoid fuel and oil pollution and remediate significant** spillages. Inspections of fuel stores and workshops. Evidence of remediation practices for pollution incidents. In field inspection of sites where vehicles, fuels and oils are being used. MS and LS: Procedures are documented SLIMF and OM: Interview - Manager can describe what steps are taken in case of spillages. Group Schemes: Procedures form part of the group management system. **GUIDANCE** Procedures should include special consideration for high risk activities such as: Mobile tankers transporting hydrocarbons infield and increased risks where

		operations are highly mechanized. **An oil spillage is considered significant if: - It occurs in the vicinity of a water body. - It has a volume in excess of 20 litres. - It occurs in the vicinity of a habitat for TOP species. Legal requirements for fuel storage facilities include the following: Tanks shall not be installed close to excavations, lakes, streams, canals, dams or the seaside. Tanks located on sites in urban areas require bunding. Tanks installed in rural areas, if deemed to be a sensitive area, will also require bunding. If installation close to a watercourse is unavoidable, adequate bunding and sealing of the surface within the bund shall be provided. Tanks should be located at least 3 m from buildings, boundaries, drains and any combustible materials. Tanks should be installed on a level site, away from overhead cables. Tanks shall be located in secure areas. Taken from South African National Standard for above-ground storage tanks for petroleum products [SANS 10131].
10.10.4	Disturbance or damages to water courses*, water bodies*, soils, rare and threatened species*, habitats*, ecosystems* and landscape values* are prevented, mitigated and repaired in a timely manner*, and management activities modified to prevent further damage.	Management plans. Field inspections.

Criterion 10.11 The Organization* shall* manage activities associated with harvesting and extraction of timber and non-timber forest products* so that environmental values* are conserved, merchantable waste is reduced, and damage to other products and services is avoided. (C5.3 and C6.5 P&C V4)		
Indicators		**Means of verification**
10.11.1	In order to minimise soil erosion the choice of harvesting system must be guided by slope, soil sensitivity and weather.	MS and LS: Documented operational guidelines. SLIMF and OM: Interview. Manager can justify the choice of harvesting system. Group Schemes: Operations guidelines can form part of the group management scheme, or reference can be made to existing guidelines. Determine harvesting systems in use. Field inspections of harvesting sites. **GUIDANCE** The organization can refer to BOPs or industry guidelines. E.g. FESA. Harvesting Code of Practice. See Environmental guidelines for operations using chainsaws. For mechanical harvesting the organizations should have operational guidelines. FSA Environmental Guidelines Chapter 7 Environmental Aspects of Forest Harvesting.
10.11.2	Damage to conservation zones should be avoided during harvesting. When damage occurs it must be repaired.	Field inspections of current and previous years harvesting sites. MS and LS: Examine harvesting plans for identification of conservation zones. SLIMF and OM: Interview. Description of steps taken to avoid damage to conservation zones. **GUIDANCE** FSA Environmental Guidelines Chapter 7 Environmental Aspects of Forest Harvesting.

Criterion 10.12 The Organization* shall* dispose of waste materials* in an environmentally appropriate manner. (C6.7 P&C V4)		
Indicators		**Means of verification**
10.12.1	Recycling of waste shall take place where economically feasible options are available.	Interview with manager to determine if recycling options have been investigated.
10.12.2	All empty chemical containers and expired chemicals shall be returned to the chemical supplier or be disposed of at a site registered for the disposal of such hazardous waste.	Inspection of chemical storage facilities. **GUIDANCE** Most managers return the containers to the chemical supplier who recycle the containers. SA Environmental Guidelines for Commercial Forestry Plantations in South Africa, Chapter 5.5 Disposal of chemical containers and unused chemicals.
10.12.3	Waste disposal sites on the FMU shall comply with national legislation and local by-laws and are managed according to industry best practice guidelines. Hazardous waste is only disposed of at sites registered for the disposal of hazardous waste.	Inspection of waste disposal facilities. **GUIDANCE** FSA Environmental Guidelines for Commercial Forestry Plantations in South Africa Chapter 2.1.5. National Environmental Management: Waste Amendment Act 26 of 2014: Domestic waste of less than 1 ton per day may be disposed of at a safely managed on-site waste disposal site that complies with national legislation and local bye-laws. Hazardous waste, including medical waste, is only disposed of at sites registered for the disposal of hazardous waste. Hazardous waste includes but is not restricted to: -Used batteries, Florescent tubes, Unused chemicals, Oil / fuel / chemical containers and medical waste from company clinics.

Annex 1: Applicable laws, regulations, nationally ratified international treaties, conventions and agreements

1 Legal rights to harvest (Legal or customary tenure, water use authorisation)

1.1 **Land tenure and management rights**

Property rights, freehold land: Title Deeds, Lease Agreement

Property rights, communal land: Interim Protection of Informal Land Rights Act (Act No. 31 of 1996)

Ingonyama Trust Act (Act No. of 1994)

1.2 **Water Use authorisation**

National Water Act (Act No. 36 of 1998)

2 Taxes and fees

National Water Act (Act No. 36 of 1998)

Local Government: Municipal Property Rates Act, 2004 (Act No. 6 of 2004)

Value Added Tax Act (Act No. 89 of 1991)

Income Tax Act (Act No. 58 of 1962)

3 Timber harvesting activities

3.1 **Timber harvesting regulations** - no legally binding regulations in SA

National Forests Act (Act 84 of 1998**)** (provisions for authorising harvesting in State Forests)

3.2 **Protected sites and species**

National Heritage Resources Act (Act No. 25 of 1999)

National Environmental Management: Biodiversity Act (Act No. 10 of 2004)

NEMBA (No. 10 of 2004) Threatened or Protected Species Regulations, 2013

KwaZulu-Natal Heritage Act (Act No. 5 of 2008)

3.3 **Environmental Requirements**

National Water Act (Act No. 36 of 1998)

National Environmental Management Act (Act No. 107 of 1998)

National Environmental Management Amendment Act (Act No. 56 of 2002)

National Environmental Management Laws Second Amendment Act (Act No. 30 of 2013)

National Environmental Management Laws Amendment Act (Act No. 25 of 2014)

National Environmental Management: Biodiversity Act (Act No. 10 of 2004)

National Environmental Management: Protected Areas Act (Act No. 57 of 2003)

National Environmental Management: Waste Act (Act No. 59 of 2008)

National Environmental Management: Waste Amendment Act (Act No. 26 of 2014)

National Environmental Management: Air Quality Act (Act No. 39 of 2004)

National Environmental Management: Air Quality Amendment Act (Act No. 20 of 2014)

NEMA EIA regulation 2014. Listing Notices

NEMBA (No. 10 of 2004) Alien and Invasive Species Regulations, 2014

NEMBA (No. 10 of 2004) Alien and Invasive Species List, 2015

National Veld and Forest Fire Act (Act No. 101 of 1998)

Conservation of Agricultural Resources Act (Act No. 43 of 1983), as amended 2001

Agricultural Pests Act (Act No. 39 of 1983)

Animal Disease Act (No. 35 of 1984)

Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (No. 36 of 1947)

Hazardous Substances Act (Act No. 15 of 1973)

Hazardous Chemical Substances Regulations (Government Notice R1179, 1995)

Environment Conservation Act (No. 73 of 1989)

KwaZulu-Natal Nature Conservation Management Act (Act No. 9 of 1997)

Mpumalanga Nature Conservation Act (Act No. 10 of 1998)

3.4 **Health and Safety**

Occupational Health and Safety Act (Act No. 85 of 1993)

National Health Act (Act No. 61 of 2003)

Compensation for Occupational Injuries and Diseases Act (Act No. 130 of 1993)

National Road Traffic Act (Act No. 93 of 1996)

Tobacco Products Act (Act No. 83 of 1993)

Foodstuffs, Cosmetics and Disinfectants Act (Act No. 54 of 1972)

Nursing Act (Act No. 33 of 2006)

Health Professions Act (Act No. 56 of 1974)

Medicines and Related Substances Act (Act No. 101 of 1965)

Fire Arms Control Act (Act 60 of 2000)

Water Services Act (Act No. 108 of 1997)

3.4 **Legal Employment**

Constitution of the Republic of South Africa Act (Act 106 of 1996)

Basic Conditions of Employment Act (No. 75 of 1997)

Sectoral Determination 12: Forestry Sector

Labour Relations Act (LRA), 1995 (Act No. 66 of 1995)

Employment Equity Act, 1998 (Act No. 55 of 1998)

Unemployment Insurance Act, 2001 (Act No. 63 of 2001)

Skills Development Levies Act, 1999 (Act No. 9 of 1999)

4 Third Parties' Rights

4.1 **Customary rights, rights to land and restitution of land rights**

Extension of Security of Tenure Act (No. 67 of 1997)

Prevention of Illegal Eviction from and Unlawful occupation of Land Act (No. 19 of 1998)

Land Reform (Labour Tenants) Act (No. 3 of 1996)

The Interim Protection of Informal Rights Act (No. 31 of 1996)

Restitution of Land Rights Act (No. 22 of 1994)

4.2 **Free, prior and informed consent** – see the above laws for provisions

4.3 **Indigenous Peoples Rights** – no special provisions, covered under 4.1

5. Trade and Transport

There are no national laws*, local laws*, ratified* international conventions and obligatory codes of practice* that explicitly apply to the trade and

transport of plantation forestry species in South Africa. CITES provisions are not relevant to the cultivation and sale of the species that are used in South African plantation forestry. There are requirements under NEMBA (Invasive alien species regulations) that refer to trade and transport of alien plants but plantation species are exempt from these regulations. National Road Traffic Act regulates timber transport.

6. Due Diligence/ due care

7. Ecosystem services

National Water Act (No. 36 of 1998)

8. Anti-corruption

Prevention and Combating of Corrupt Activities Act, (Act No.12 of 2004 (PCCAA)

9. Miscellaneous

Fencing Act (No. 31 of 1963)

Minerals and Petroleum Resources Development Act (No. 28 of 2002)

National Building Regulations and Building Standards (No. 103 of 1977)

National Road Traffic Amendment Act (No. 21 of 1999)

Plant Breeders Rights Act (No. 15 of 1976)

Plant Breeders Act (Act No. 22 of 1964)

Plant Improvement Act (Act No. 53 of 1976)

Animal Protection Act (No. 71 of 1962)

Annex 2: Multilateral environmental agreements and conventions ratified by South Africa relevant to plantation forestry

1. **Convention on Biological Diversity:** Implementation of the CBD depends on the incorporation of the Convention and associated policies and guidelines into the national legislation of Member States.

2. **Convention on the International Trade in Endangered Species (CITES):** The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was developed in response to concerns that unregulated international trade in wild species of wild fauna and flora could have a detrimental impact on species and their ecosystems. Forestry in South Africa does not trade in CITES species.

3. **Convention on Wetlands** (www.ramsar.org/wetland/south-africa)

4. **ILO Conventions**

   For full list of conventions ratified by South Africa go to:
   http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::P11200_COUNTRY_ID:102888

   29 Forced Labour Convention, 1930
   87 Freedom of Association and Protection of the Right to Organise Convention, 1948.
   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.
   138 Minimum Age Convention, 1973.
   182 Worst Forms of Child Labour Convention, 1999.
   155 Occupational Safety and Health Convention, 1981

Annex 3: Reference and guidance to official lists of endangered species in South Africa

There are a number of sources of information on threatened species available. The South African National Biodiversity Institute (SANBI) provides information through its Threatened Species Programme. Key references are listed below:

1. National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004): Publication of Lists of Critically Endangered, Endangered, Vulnerable and Protected Species. ((Published in Government Gazette No. 29657 No.R.151 on 23 February 2007
2. Red List of South African Plants: South African National Biodiversity Institute (SANBI) - http://redlist.sanbi.org/
3. Mammal Red List 2016: Endangered Wildlife Trust and South African National Biodiversity Institute (SANBI) - https://www.ewt.org.za/Reddata/reddata.html
4. **Threatened Species: A guide to Red Lists and their use in conservation. SANBI threatened species programme. https://www.sanbi.org/sites/default/files/documents/documents/guide-threatened-species-and-red-listing.pdf.**

Annex 4: Industry Environmental Risk Assessment
The Environmental Risk Assessment for South African plantation forestry is included in the attached Excel file.

THE DEVELOPMENT AND APPLICATION OF THE ENVIRONMENTAL RISK ASSESSMENT FOR SOUTH AFRICAN PLANTATION FORESTRY

1. BACKGROUND

The initial purpose of the risk assessment was to adapt Principle 6 to the plantation environment in South Africa. This was challenging because it appeared that compliance with 6.1, 6.2 and 6.3 would cover all the environmental requirements in the standard, rendering a substantial portion of the standard redundant. The challenge was to avoid this potential confusing duplication.

Due to the regular nature of the plantation cycle and the separation between conservation zones and production areas, the impacts of management activities on environmental values are mostly predictable and avoidance or mitigation can be included in best operating procedures or planned for. From this it was realised that one could develop an industry wide risk assessment to cover all significant forestry activities and that the indicators in the standard could be viewed as management actions or mitigation for the identified risks.

The first step was to define Environmental Values in the South African plantation context. The following rationale was followed:

- The FSC Definition of Environmental Values is as follows:

  The following set of elements of the biophysical and human environment:

  - ecosystem functions ** (including carbon sequestration and storage);
  - biological diversity;
  - water resources;
  - soils;
  - atmosphere;
  - landscape values (including cultural and spiritual values) (FSC Glossary)

- Ecosystem functions** are commonly listed and categorized in a way similar to the schema outlined by Maynard, et. al., (2010):

  - **Regulatory functions:** Gas regulation, climate regulation, disturbance regulation, water regulation, soil retention, nutrient regulation, water treatment and assimilation, pollination, biological control, barrier effect of vegetation.
  - **Supporting functions:** Supporting habitats, soil formation.
  - **Provisioning functions:** Food, raw materials, water supply, genetic resources, provision of shade and shelter, pharmacological resources.
  - **Cultural functions:** Landscape opportunity.

It was noticed that in the FSC definitions the first bullet “ecosystem functions” encompasses the next 5, which are all ecosystem functions. It follows then that environmental values can equate directly to ecosystem functions.

A set of environmental values was adapted from the Maynard definition for the plantation environment, resulting in 21 environmental values categorized into regulatory, supporting, provisioning and cultural functions. The risk assessment considered all these values. After completing the risk assessment these were then condensed into 13 values without sacrificing any useful detail. Further examination revealed that these Environmental Values could be aligned to the 6 conservation values designated by the FSC as HCVs. This allowed for the impacts of plantation forestry activities on the conservation values (CVs) to be evaluated and for this to be used in the South African approach to adapting Principle 9.

The industry risk assessment was done by first producing a draft risk assessment which was circulated with the first round of consultation for the Standard. Workshops were held with forestry in order to get agreement on management activities and risks. The final ranking of impacts received broad acceptance from stakeholders.

2. DEVELOPMENT OF THE RISK ASSESSMENT

Step 1: Identification of Management Activities and hazards

An exhaustive list of potential management activities was drafted and arranged into 9 categories: Afforestation, Growing stock, Harvesting, Re-afforestation, Conservation Zones, Fire Protection, Estate Management and Unplanned events.

The potential hazards associated with each of the activities were identified.

Step 2: Impact analysis

Each hazard was evaluated according to which Conservation Value it affected on a matrix with the Conservation Values on the X axis and the Management activities and their hazards on the Y axis. The following code was applied.

0= The Management Activity is unrelated to the CV.

1= The Management Activity may influence the CV indirectly but not in a way that can be managed.

2= The Management Activity impacts the CV and measures can be taken avoid or mitigate the impacts.

3= The Management Activity impacts the CV in a potentially irreversible way and authorizations are required by government before the activity can proceed.

The resultant matrix provides a profile of plantation forestry in South Africa and the Conservation Values that are affected.

Step 3: Impact Assessment

Risk was defined as a product of scale, intensity and the sensitivity of the environment. For the purposes of the industry wide risk assessment a risk profile for the plantation

industry in South Africa can be arrived at by considering scale and intensity only, but when applying the approach to a specific site the sensitivity (relevance) of the site should be included in the final risk analysis. When applying the risk assessment approach at site level, it could also be useful to consider if the manager has control over a particular hazard or not. For the use of the risk assessment in this Standard the RELEVANCE/SENSITIVITY and CONTROL factors have been set to a value of 1 for all hazards.

The potential hazards of each management activity were individually assessed for scale and intensity. For the purposes of the standard, this was done considering the South Africa plantation industry as a whole. It must be noted that the actual risk profile is not necessarily the same for each site and conducting the assessment for a landscape, an FMU, or an individual plantation will provide an increasingly precise assessment of the risks.

Step 4 Ranking of Impacts

The risks were sorted from greatest to smallest to provide an objective basis to prioritize efforts to mitigate impacts. When designing indicators, greatest effort would be placed on those management activities that carry the greatest risk. This is to ensure that the standard has maximum impact.

Step 5: The use of the risk assessment in developing indicators

A useful tool to develop indicators is through analysing the drivers of a particular hazard or risk. Not all management activities and risks lend themselves to this process but where it is appropriate it provides a valuable objective tool to ensure a comprehensive set of indicators.

In the South African process, for medium and high risk management activities in particular, a detailed analysis of drivers was undertaken in order to develop indicators. This proved extremely useful in ensuring that indicators covered the essential elements.

For example: In developing the indicator for the hazard of unplanned fires, a high risk in South African forestry, the following process was followed. Through consultation with 5 acknowledged experts in the field and reference to various published articles 32 drivers of fire risk were identified. These were sorted into the following categories: Information sources, Planning, Training, Legal requirements and Monitoring. The drivers of each of these categories were formulated into an indicator. This resulted in a substantial improvement in the previous version of the National Standard's indicators. The previous national standards indicators dealt with a few aspects relating to fire control but missed out critical issues such as monitoring and analysis of past fires, a fire protection strategy and the training and experience of responsible staff members. The new set of indicators is comprehensive and precise.

Old standard indicators:

> 10.7.6 Fire breaks shall be constructed and maintained according to the recommendations of the local Fire Protection Association and/or best practice guidelines.

10.7.7 Fire control resources shall be available and are in keeping with the scale and extent of the FMU.

10.7.8 All wild fires shall be reported to the local Fire Protection Association (FPA).

10.7.9 Measures shall be taken to limit environmental damage after the occurrence of accidental fires.

New standard indicators:

10.9.1 Records of past uncontrolled fires are kept and trends examined.

10.9.2 There is a comprehensive fire risk management strategy that is implemented.

[Guidance provides 6 key elements of strategy]

10.9.3 Those responsible for implementing the fire management strategy are capable.

10.9.4 The organization is a member of the Fire Protection Association in all areas that the FMU occupies.

10.9.5 Measures shall be taken to monitor and limit environmental damage after the occurrence of uncontrolled fires.

Step 6: Matching indicators to risks

After the indicators have been chosen they can be matched to the corresponding management activity and hazard in the risk assessment matrix.

THE USE OF THE RISK ASSESSMENT BY MANAGERS

This standard requires a formal risk assessment to be carried out. The risk assessment provided with the standard can be used, or the organization can conduct its own risk assessment as long as the environmental values** are addressed. Where there are differences in risk designation this must be justified.

The risk assessment can be applied to a single forestry estate, a landscape*, or to the FMU. The smaller the unit of application the greater the level of resolution achieved.

Group Scheme managers can apply the risk assessment to an entire group or sub sections of the group on behalf of the members. Ideally each member of a group scheme should have their own risk profile allowing them to determine which indicators are priorities on their FMUs.

How to apply the risk assessment:

1. Decide on the appropriate scale that the risk assessment will be applied.

2. Identify the management activities undertaken by the organization and the corresponding hazards. This is done by selecting 1 if the management activity is relevant and 0 if it is not.
3. For the relevant activities, the RISK of each activity as determined during the industry-level risk assessment, will be present in the RISK column. If there is reason to believe that the scale or intensity of the management activity is different from the generic risk assessment, this can be altered with justification. This will change the risk value.
4. The result of this will be a risk profile for the unit of assessment.
5. This will allow the manager to prioritize the important indicators and show which are irrelevant.

Annex 5: Minimum housing standards

Housing constructed for workers by landowners:

1. Safe and structurally sound.
2. Clean and well maintained.
3. Situated so as to avoid flooding or other natural hazards.
4. Waterproof, windproof and weatherproof.
5. Sufficient ventilation and insulation.
6. No more than 6 people sharing a room.
7. Minimum bedroom floor sizes:
   7.5 m2 : two beds
   11.5 m2: three beds
   14.5 m2: four beds
   More than four beds, at least 3.5 sq m per person.
8. Lockers to be provided for keeping personal belongings in shared rooms.
9. Kitchen areas separated from sleeping areas.
10. Food store for hygienic storage of food.
11. Sufficient clean water available within close proximity. Water must be regularly tested for potability.
12. Sanitary facilities (washrooms, showers, toilets or latrines) separated from sleeping and dining areas and from kitchen facilities and storage areas for food, complying to hygienic requirements.
13. A minimum of 1 toilet, 1 wash basin and 1 tub or shower for every six persons. Separate sanitary facilities for men and women.
14. Facilities for washing and drying clothes, with adequate water supply and drainage.
15. Stores for any flammable, chemical or explosive substances at a safe distance from living quarters.
16. Means of control of rodent and harmful insects.
17. Appropriate fire safety equipment and systems.
18. Appropriate refuse and sewage disposal.

The following applies to self-built housing*:

1. Facilities are provided for rubbish disposal.
2. Provision of potable water within 200m of dwellings.
   Water supply must be adequate for drinking and washing purposes. As a rough guideline this is about 50 litres per person per day.
3. The use of rivers for washing of utensils and clothing is strongly discouraged.
4. Adequate ventilation in houses where cooking takes place on open fires.
5. Toilet facilities must be sited appropriately and must be enclosed.

Latrines must:

1. Be situated more than 50m from any surface water bodies.
2. Be situated more than 50m from any boreholes.
3. Be situated on soils with suitable drainage.
4. Must not have any storm water drainage flowing into it.
5. Pit latrines must be 3m or deeper (where possible), with a sturdy enclosed structure.
6. If necessary be treated with chemicals to reduce offensive odours and control flies.

Annex 6: Glossary of terms

Adaptive management	A systematic process of continually improving management policies and practices by learning from the outcomes of existing measures.
Affected stakeholder	Any person, group of persons or entity that is or is likely to be subject to the effects of the activities of a Management Unit. Examples include, but are not restricted to (for example in the case of downstream landowners), persons, groups of persons or entities located in the neighbourhood of the Management Unit. The following are examples of affected stakeholders: · Local communities · Indigenous peoples · Workers · Forest dwellers · Neighbours
Alien species	A species, subspecies or lower taxon, introduced outside its natural past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce{Convention on Biological Diversity (CBD), Invasive Alien Species Programme. Glossary of Terms as provided on CBD website}.
Best Available Information	Data, facts, documents, expert opinions, and results of field surveys or consultations with stakeholders that are most credible, accurate, complete, and/or pertinent and that can be obtained through reasonable* effort and cost, subject to the scale* and intensity* of the management activities and the Precautionary Approach*.
Biological control agents	Organisms used to eliminate or regulate the population of other organisms Based on FSC 1994 and World Conservation Union (IUCN). {Glossary definitions as provided on IUCN website.}
Biological diversity	The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems. {Convention on Biological Diversity 1992, Article 2}
Broad vegetation Types	Categories of vegetation type derived from the bioregions in Mucina and Rutherford (2006) The following broad vegetation units*, that are likely to occur in the plantation growing areas of South Africa: Savannah: All types Grasslands: Dry Highveld Grasslands, Mesic Highveld Grasslands, High Altitude Grasslands, Sub-Escarpment Grasslands, Indian Ocean Coast Grasslands. Fynbos: Proteoid, Ericaceous, Restioid Asteraceous, Shrubby and Grassy.

Connectivity	A measure of how connected or spatially continuous a corridor, network, or matrix is. The fewer gaps, the higher the connectivity. Related to the structural connectivity concept; functional or behavioural connectivity refers to how connected an area is for a process, such as an animal moving through different types of landscape elements. Aquatic connectivity deals with the accessibility and transport of materials and organisms, through groundwater and surface water, between different patches of aquatic ecosystems of all kinds {Based on R.T.T. Forman. 1995. Land Mosaics. The Ecology of Landscapes and Regions. Cambridge University Press}.
Conservation zones and protection areas	Defined areas that are designated and managed primarily to safeguard species, habitats, ecosystems, natural features or other site-specific values because of their natural environmental or cultural values, or for purposes of monitoring, evaluation or research, not necessarily excluding other management activities. For the purposes of the Principles and Criteria, these terms are used interchangeably, without implying that one always has a higher degree of conservation or protection than the other. The term 'protected area' is not used for these areas, because this term implies legal or official status, covered by national regulations in many countries. In the context of the Principles and Criteria, management of these areas should involve active conservation, not passive protection.
Community	A group of people who, regardless of the diversity of their backgrounds, that have been able to accept and transcend their differences, enabling them to communicate effectively and openly and to work together toward goals identified as being for their common good. This includes people regardless of their origins, including indigenous people.
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.
Dispute	For the purpose of the IGI, this is an expression of dissatisfaction by any person or organization presented as a complaint to The Organization*, relating to its management activities or its conformity with the FSC Principles and Criteria, where a response is expected {Based on FSC-PRO-01-005 V3-0 Processing Appeals}.
Dispute of substantial duration	Dispute* that continues for more than twice as long as the predefined timelines in the FSC System (this is, for more than 6 months after receiving the complaint, based on FSC-STD-20-001).

Dispute of substantial magnitude	For the purpose of the International Generic Indicators, a dispute* of substantial magnitude is a dispute* that involves one or more of the following: - Affects the legal* or customary rights* of Indigenous Peoples* and local communities*; - Where the negative impact of management activities is of such a scale that it cannot be reversed or mitigated; - Physical violence; - Destruction of property; - Presence of military bodies; - Acts of intimidation against forest* workers* and stakeholders*. This list should be adapted or expanded by Standard Developers.
Ecological integrity	Ecological integrity: A measure of how intact or complete an ecosystem is (SDG).
Ecosystem	A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit {Convention on Biological Diversity 1992, Article 2}.
Ecosystem services	The benefits people obtain from ecosystems. These include a. provisioning services such as food, forest products and water; b. regulating services such as regulation of floods, drought, land degradation, air quality, climate and disease; c. supporting services such as soil formation and nutrient cycling; d. and cultural services and cultural values such as recreational, spiritual, religious and other nonmaterial benefits.
Engaging or engagement	The process by which The Organization communicates, consults and/or provides for the participation of interested and/or affected stakeholders ensuring that their concerns, desires, expectations, needs, rights and opportunities are considered in the establishment, implementation and updating of the management plan.
Environmental Impact Assessment	Systematic process used to identify potential environmental and social impacts of proposed projects, to evaluate alternative approaches, and to design and incorporate appropriate prevention, mitigation, management and monitoring measures.
Environmental values	The following set of elements of the biophysical and human environment: a. ecosystem functions (including carbon sequestration and storage) b. biological diversity c. water resources d. soils e. atmosphere f. landscape values (including cultural and spiritual values). The actual worth attributed to these elements depends on human and societal perceptions.

Externalities	The positive and negative impacts of activities on stakeholders that are not directly involved in those activities, or on a natural resource or the environment, which do not usually enter standard cost accounting systems, such that the market prices of the products of those activities do not reflect the full costs or benefits.
Family forestry	Smallholder forestry where there is no formal employment. The great majority of work is done by family members (SDG).
Familiar/familiarise	To identify and become acquainted.
Genetically modified organism	An organism in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination {Based on FSC-POL-30-602 FSC Interpretation on GMO (Genetically Modified Organisms)}.
Genotype	The genetic constitution of an organism
Habitat	The place or type of site where an organism or population occurs.
High Conservation Value (HCV)	HCV 1 – Species diversity. Concentrations of biological diversity* including endemic species, and rare*, threatened* or endangered species, that are significant* at global, regional or national levels. HCV 2 – Landscape*-level ecosystems* and mosaics. Intact forest landscapes and large landscape*-level ecosystems* and ecosystem* mosaics that are significant* at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance. HCV 3 – Ecosystems* and habitats*. Rare*, threatened*, or endangered ecosystems*, habitats* or refugia*. HCV 4 – Critical* ecosystem services*. Basic ecosystem services* in critical* situations, including protection* of water catchments and control of erosion of vulnerable soils and slopes. HCV 5 – Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities* or Indigenous Peoples* (for livelihoods, health, nutrition, water, etc.), identified through engagement* with these communities or Indigenous Peoples. HCV 6 – Cultural values. Sites, resources, habitats* and landscapes* of global or national cultural, archaeological or historical significance, and/or of critical* cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities* or Indigenous Peoples, identified through engagement* with these local communities* or Indigenous Peoples.
High Conservation Value Areas	Zones and physical spaces which possess and/or are needed for the existence and maintenance of identified High Conservation Values.

Intact Forest Landscapes	a territory within today's global extent of forest cover which contains forest and non-forest ecosystems minimally influenced by human economic activity, with an area of at least 500 km2 (50,000 ha) and a minimal width of 10 km (measured as the diameter of a circle that is entirely inscribed within the boundaries of the territory).
Interested stakeholder	Any person, group of persons, or entity that has shown an interest, or is known to have an interest, in the activities of a Management Unit. The following are examples of interested stakeholders. · Conservation organizations, for example environmental NGOs · Labour (rights) organizations, for example labour unions · Human rights organizations, for example social NGOs · Local development projects · Local governments · National government departments functioning in the region · FSC National Offices · Experts on particular issues, for example High Conservation Values
Invasive species	Species that are rapidly expanding outside of their native range. Invasive species can alter ecological relationships among native species and can affect ecosystem function and human health {Based on World Conservation Union (IUCN). Glossary definitions as provided on IUCN website}.
Landscape	A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area {Based on World Conservation Union (IUCN). Glossary definitions as provided on IUCN website}.
Landscape values	Landscape values can be visualized as layers of human perceptions overlaid on the physical landscape. Some landscape values, including economic, recreation, subsistence value or visual quality are closely related to physical landscape attributes. Other landscape values such as intrinsic or spiritual value are more symbolic in character and are influenced more by individual perception or social construction than physical landscape attributes {Based on website of the Landscape Value Institute}.
Local communities	Communities of any size that are in or adjacent to the Management Unit, and also those that are close enough to have a significant impact on the economy or the environmental values of the Management Unit or to have their economies, rights or environments significantly affected by the management activities or the biophysical aspects of the Management Unit.
Long term	The time-scale of the forest owner or manager as manifested by the objectives of the management plan*, the rate of harvesting, and the commitment to maintain permanent forest cover. The length of time involved will vary according to the context and

	ecological conditions, and will be a function of how long it takes a given ecosystem to recover its natural structure and composition following harvesting or disturbance, or to produce mature or primary conditions.
Management plan	The collection of documents, reports, 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 spatial area or areas submitted for FSC certification with clearly defined boundaries managed to a set of explicit long term management objectives which are expressed in a management plan. This area or areas include(s): all facilities and area(s) within or adjacent to this spatial area or - areas under legal title or management control of, or operated by or on behalf of The Organization, for the purpose of contributing to the management objectives; and · all facilities and area(s) outside, and not adjacent to this spatial area or areas and operated by or on behalf of The Organization, solely for the purpose of contributing to the management objectives.
Native species	Species, subspecies, or lower taxon, occurring within its natural range (past or present) and dispersal potential (that is, within the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Natural conditions/native ecosystem	For the purposes of the Principles and Criteria and any applications of restoration techniques, terms such as 'more natural conditions', 'native ecosystem' provide for managing sites to favour or restore native species and associations of native species that are typical of the locality, and for managing these associations and other environmental values so that they form ecosystems typical of the locality. Further guidelines may be provided in FSC Forest Stewardship Standards.
Natural forest	A forest area with many of the principal characteristics and key elements of native ecosystems, such as complexity, structure and biological diversity, including soil characteristics, flora and fauna, in which all or almost all the trees are native species. 'Natural forest' does not include land which is not dominated by trees, was previously not forest, and which does not yet contain many of the characteristics and elements of native ecosystems. Young regeneration may be considered as natural forest after some years of ecological progression.
Non-timber forest products (NTFP)	All products other than timber derived from the Management Unit.
Occupational accident	An occurrence arising out of, or in the course of, work which results in fatal or non-fatal injury.

Pesticide	Any substance or preparation prepared or used in protecting plants or wood or other plant products from pests; in controlling pests; or in rendering such pests harmless.This definition includes insecticides, rodenticides, acaricides, molluscicides, larvaecides, fungicides and herbicides {FSCPOL-30-001 FSC Pesticides Policy (2005)}.
Plantation	A forest area established by planting or sowing with using either alien or native species, often with one or few species, regular spacing and even ages, and which lacks most of the principal characteristics and key elements of natural forests. The description of plantations may be further defined in FSC Forest Stewardship Standards, with appropriate descriptions or examples, such as: · Areas which would initially have complied with this definition of 'plantation' but which, after the passage of years, contain many or most of the principal characteristics and key elements of native ecosystems, may be classified as natural forests. · Plantations managed to restore and enhance biological and habitat diversity, structural complexity and ecosystem functionality may, after the passage of years, be classified as natural forests. · Boreal and north temperate forests which are naturally composed of only one or few tree species, in which a combination of natural and artificial regeneration is used to regenerate forest of the same native species, with most of the principal characteristics and key elements of native ecosystems of that site, may be considered as natural forest, and this regeneration is not by itself considered as conversion to plantations.
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 {Based on Principle 15 of Rio Declaration on Environment and Development, 1992, and Wingspread Statement on the Precautionary Principle of the Wingspread Conference, 23–25 January 1998}.
Priority species	A select group of TOPs that are especially important for their ecosystem and for people and identified by widely recognized conservation organizations.
Protection	See definition of conservation zone.
Protection Area	See definition of conservation zone.
Rare species	Species that are uncommon or scarce, but not classified as threatened. These species are located in geographically restricted areas or specific habitats, or are scantily scattered on a large scale. They are approximately equivalent to the IUCN (2001) category of Near Threatened (NT), including species that

	are close to qualifying for, or are likely to qualify for, a threatened category in the near future. They are also approximately equivalent to imperilled species {Based on IUCN. (2001). IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission. IUCN. Gland, Switzerland and Cambridge, UK}.
Representative sample area	Portions of the Management Unit* delineated for the purpose of conserving or restoring viable examples of an ecosystem that would naturally occur in that geographical region.{ IUCN World Commission on Protected Areas (IUCN-WCPA). 2008. Establishing Marine Protected Area Networks – Making it Happen. Washington D.C.: IUCN-WCPA National Oceanic and Atmospheric Administration and The Nature Conservancy}.
Resilience	The ability of a system to maintain key functions and processes in the face of stresses or pressures by either resisting or adapting to change. Resilience can be applied to both ecological systems and social systems.
Restore/ Restoration	These words are used in different senses according to the context and in everyday speech. In some cases 'restore' means to repair the damage done to environmental values that resulted from management activities or other causes. In other cases 'restore' means the formation of more natural conditions in sites which have been heavily degraded or converted to other land uses. In the Principles and Criteria, the word 'restore' is not used to imply the recreation of any particular previous, pre-historic, pre-industrial or other pre-existing ecosystem.
Riparian Habitat	Riparian habitat includes the physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterised by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent land areas [National Water Act, (Act 36 of 1998)]. Also referred to as riparian zone.
Semi-natural forest	Semi natural forests can be defined as neither a forest undisturbed by humans nor a plantation as defined separately. They represent mainly managed forests modified by humans through silviculture and assisted regeneration.
Tenure	Socially defined agreements held by individuals or groups, recognized 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 or the associated resources there within (such as individual trees, plant species, water, minerals, etc.) {World Conservation Union (IUCN). Glossary definitions as provided on IUCN website}.
The Organization	The person or entity holding or applying for certification and therefore responsible for demonstrating compliance with the requirements upon which FSC certification is based.

Threatened species	Species that meet the IUCN (2001) criteria for Vulnerable (VU), Endangered (EN) or Critically Endangered (CR) species, and are facing a high, very high or extremely high risk of extinction in the wild. These categories may be re-interpreted for FSC purposes according to official national classifications (which have legal significance) and to local conditions and population densities (which should affect decisions about appropriate conservation measures) {Based on IUCN. (2001). IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission. IUCN. Gland, Switzerland and Cambridge, UK}.
Threatened or Protected Species (TOPS)	Species defined under NEMBA (No. 10 of 2004) Threatened or Protected Species Regulations, 2013.
Traditional Housing	Housing that has been built by the workers themselves according to their own requirements and not supplied by the employer.
Use rights	Rights for the use of resources of the Management Unit that can be defined by local custom, mutual agreements, or prescribed by other entities holding access rights. These rights may restrict the use of particular resources to specific levels of consumption or particular harvesting techniques.
Vegetation unit	Vegetation unit: A complex of plant communities ecologically and historically (both in spatial and temporal terms) occupying habitat complexes at the landscape scale (Mucina and Rutherford, 2006).
Very Limited portion	The area affected shall* not exceed 0.5% of the area of the Management Unit* in any one year, nor affect a total of more than 5% of the area of the Management Unit*.
Workers	All employed persons including public employees as well as 'self-employed' persons. This includes part-time and seasonal employees, of all ranks and categories, including labourers, administrators, supervisors, executives, contractor employees as well as self-employed contractors and sub-contractors {ILO Convention C155 Occupational Safety and Health Convention, 1981}.

Annex 7: Content of a Training Program

The Content of a Training Program is to ensure that all workers contribute to the safe and effective implementation of the planning documentation. The program should include, but is not limited to the following guidelines consistent with the tasks and responsibilities of workers (including subcontractors):

1. Knowledge and compliance with applicable law (according to Criterion 1.5).
2. Knowledge of the content and specifics of the basic conventions of the ILO (according to Criterion 2.1).
3. To distinguish and report cases of sexual harassment and gender discrimination (according to Criterion 2.2).
4. Safe handling and disposal of hazardous substances in order to avoid health risks (according to Criterion 2.3).
5. Implementation of particularly dangerous activities or those requiring special responsibilities and the requisite equipment / specialized protective clothing (eg. Techniques for felling and hauling, fire protection, etc.). (According to Criterion 2.5).
6. Identification of the places of special cultural, ecological, economic, religious or spiritual interest of local communities and the implementation of conservation measures before commencement of forestry activities in order to avoid negative impact (according to Criterion 4.7).
7. Respecting the legal and customary rights of local communities regarding forest management activities (according to Criterion 4.2).
8. Assessment of the social, economic and environmental impact and development of appropriate measures to limit the negative impacts. (According to Criterion 4.5).
9. Use and storage of pesticides (According to Criterion 10.7).
10. Applying of urgent measures to neutralize spills or other accidents with chemicals. (According to Criterion 10.12).

ANNEX 8: Elements of the *Management Plan.**
The following elements should be included in a management plan depending on operational requirements of the organization:

1) The results of assessments, including:

i. Natural resources and environmental values*, as identified in Principle* 6 and Principle* 9;

ii. Social, economic and cultural resources and condition, as identified in Principle* 6, Principle* 2 to Principle* 5 and Principle* 9;

iii. Major social and environmental risks in the area, as identified in Principle 6, Principle* 2 to Principle* 5 and Principle* 9; and

2) Programs and activities regarding:

i. Workers*' rights, occupational health and safety, gender equality*, as identified in Principle* 2;

ii. Indigenous Peoples*, community relations, local economic and social development, as identified in Principle* 3, Principle* 4 and Principle* 5;

iii. Stakeholder engagement* and the resolution of disputes* and grievances, as identified in Principle* 1, Principle* 2 and Principle* 7;

iv. Planned management activities and timelines, silvicultural systems used, typical harvesting methods and equipment, as identified in Principle* 10;

v. The rationale for harvesting rates of timber and other natural resources, as identified in Principle* 5.

3) Measures to conserve* and/or restore*:

i. Rare and threatened species* and habitats*;

ii. Water bodies* and riparian zones*;

iii. Landscape* connectivity*, including wildlife corridors;

iv. Declared ecosystem services* as identified in Criterion* 5.1, and Annex C;

v. Representative Sample Areas*, as identified in Principle* 6; and

vi. High Conservation Values*, as identified in Principle* 9.

4) Measures to assess, prevent, and mitigate negative impacts of management activities on:

i. Environmental values*, as identified in Principle* 6 and Principle* 9;

ii. Social Values, as identified in Principle* 2 to Principle* 5 and Principle* 9.

5) A description of the monitoring program, as identified in Principle* 8, including:

i. Growth and yield, as identified in Principle* 5;

ii. Declared Ecosystem services* as identified in Criterion* 5.1 and Annex C;

iii. Environmental values*, as identified in Principle* 6;

iv. Operational impacts, as identified in Principle* 10;

v. High Conservation Values*, as identified in Principle* 9;

vi. Monitoring systems based on stakeholder engagement* planned or in place, as identified in Principle* 2 to Principle* 5 and Principle* 7;

vii. Maps describing the natural resources and land use zoning on the management unit.

Annex 9: References

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