

GFA Consulting Group GmbH

- GFA Certification -

Generic Standards for Forest Stewardship

Version 7.0

No. 7.0 Date: 12.09.2005
- Under Continuous Improvement -

Note:

These Standards have been developed in close cooperation with representatives from the trade union, social science, forest science, forest planning, hunting, agro-economics and ecology. They are mainly based on the Principles and Criteria of the FSC. Additionally, they include, wherever appropriate, ideas or parts of the following documents and developments:

The recommendations of ITTO, the results of the UNCED-Conference in Rio, the *Criteria and Operational Level Guidelines* of the *Ministerial Conferences on the Protection of Forests in Europe* held in Helsinki and Lisbon, and the environmental and social recommendations made by international NGOs.

Introduction

Responsible forest management (i. e. based of the current state of knowledge) comprises all those direct and indirect measures of protection, tending and utilization of forests which ensure their permanent conservation. Responsible forest management maintains the natural plasticity and diversity of life forms which enable forests to evolve and provide human benefits through their ecological, economic, social and cultural functions in perpetuity.

Certification of forest management means the evaluation of the quality of the actual forest management with respect to economic, social and environmental responsibility and assessing it against defined and recognized standards.

Prerequisites for the evaluation of the quality of forest management are, therefore, the existence of standards that serve as a basis and as a tool for comparison and the existence of a standardized process to execute the evaluation. The process must be as objective and transparent as possible.

Decisions on the assessment criteria for well-managed forests are critical. Generic criteria have to be adapted for, at least, different major forest areas in the tropical, temperate and boreal latitudinal zones. Criteria need to be supplemented by verifiable qualitative and quantitative indicators, which themselves need to be defined at the regional or local level. These indicators will be compiled in individual country-specific checklists to facilitate office audits and field inspections.

A complete assessment of responsible forest management must also take account of the country-specific framework conditions at the national and other administrative levels.

The situation at each level affects the feasibility of regulated forest management. There should be consistency and transparency in the expression of the political, administrative, economic, ecological, social and cultural conditions within which a forest management unit operates. An evaluation of forest management should take into account the circumstances at all levels, from the international to the operational. However, the decision for or against certification is solely based on the findings at the operational level.

The focus of the evaluation of the quality of forest management should be on the forest management unit, i.e. the operational level. At this level, forest policy and administrative guidelines must be integrated into practical forest management.

The assessment of forest management at the operational level considers the following five aspects:

- Legal, political and administrative aspects
- Technical aspects of planning and implementation
- Economic aspects
- Social and cultural aspects
- Ecological aspects

The field inspection should determine the adequacy of the existing planning, implementation and control mechanisms to orient forest management towards sustainability. This inspection should check and evaluate the management practices which affect the areas and structures of

stands, the methods of log extraction and log transport, as well as the silvicultural-ecological stand condition following harvesting.

The following standards have been prepared to allow for adaptation to local circumstances while maintaining applicability to a wide range of forest situations. The standards assume that there is (i) a forest owner, (ii) a normative authority, and (iii) a forest manager. In many countries these will be expressed, respectively, as the nation (represented by the government), the national forest service, and a management company, licensee or concessionaire. However, legally recognized owners may also be municipal authorities or local communities, while forest managers may be the national forest service itself or a specialized private sector company or a public-interest non-governmental organization.

History of versions:

Versions 1 - 3

Early internal drafts of generic fm standard.

Version 4.0

First official version of generic fm standard submitted for FSC accreditation

Version 5.0

Revision of criteria and indicators based on pre-accreditation FSC conditions.

Version 5.1

According to the decision by FSC, the structure of the current version of the GFA Standards strictly follows the structure of the FSC Principles and Criteria (FSC Doc. 1.2, Jan 1999).

Version 6.0

Major revision at indicator-level by E. Schmidt and H.J. Droste on the basis of gained experiences.

Version 6.1

Minor corrections by H.J. Droste.

Version 7.0

Corrections by C. Huljus & T. Specht

Definitions:

Standards: General definition: documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purpose [Upton and Bass]. As applied to forestry: norms or procedures, e.g., as used by certification bodies in their evaluation of the implementation by an applicant of the Forest Stewardship Standards or chain of custody procedures.

Principle: An essential rule or element of forest stewardship (in the context of FSC certification).

Criterion (pl. criteria): a category of conditions or processes by which responsible forest management can be assessed: A criterion is characterized by a set of related indicators which are monitored periodically to assess change [The Montreal Process]; a means of judging whether or not a Principle (of Forest Management) has been fulfilled [FSC Board approved version of Principle 10: Plantations].

Indicator: a direct or indirect measurable variable used to report on the status or trend of a criterion; distinct from objective [adapted from Canadian Forest Service, C&I pamphlet]; a measure (measurement) of an aspect of the criterion: A quantitative or qualitative variable which can be measured or described and which when observed periodically demonstrates trends [The Montreal Process].

PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES

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

Criterion 1.1 Forest management shall respect all national and local laws and administrative requirements.

Indicator(s):

- *Relevant laws and guidelines and regulations for implementation are available and kept up to date.*
- *Conflicts with laws or guidelines are documented and countermeasures have been developed.*
- *A system to periodically communicate all relevant information to the members of the management operation exists*
- *Responsible personnel is familiar with the legal context in which they operate.*
- *The forest management adheres to all national and local laws and administrative requirements.*

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

Indicator(s):

- *A list of all fees etc. to be paid is available at the forest authorities and known to the forest manager.*
- *There is evidence that all required fees etc. have been paid by the forest operation.*

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

Indicator(s):

- *Elements of international agreements relevant for a single forest management unit (e.g. protected species) are known and respected.*
- *A system to periodically communicate all relevant information to the members of the management operation exists.*

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

Indicator(s):

- *Conflicts between laws, regulations and the FSC Principles and Criteria are documented and are reported to the certification body.*
- *Identified conflicts are being solved in an appropriate and proper way.*

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

Indicator(s):

- *A list of possible and occurring illegal or unauthorized activities is set up.*
- *A system to identify and monitor illegal or unauthorized activities is in place.*
- *Appropriate protective measures (e.g. signs, special personnel) to avoid occurrence of unauthorised activities are in place.*

Criterion 1.6 Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.

Indicator(s):

- *The forest owner, manager or tenant has signed a certification contract, normally for 5 years, with GFA TERRA SYSTEMS.*
- *An appropriate policy statement is included in the official documents of the forest enterprise or the forest service.*

- *A long term forest management plan demonstrates a commitment to adhere to the FSC Principles and Criteria.*

PRINCIPLE #2: TENURE AND USE RIGHTS AND RESPONSIBILITIES
Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.

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

Indicator(s):

- *Documentation describing the legal status of the land and existing forest use rights exists.*
- *Conflicts on tenure and use rights are identified, recognised and documented.*

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

Indicator(s):

- *Local communities with legal or customary tenure or use rights are identified.*
- *Documentation on legal or customary tenure exists.*
- *Identified legal or customary tenure or use rights are recognized in the planning process.*

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

Indicator(s):

- *A documentation describing the methods and instruments to resolve disputes over tenure claims and use rights (dispute resolution system) exists.*
- *Records of previously documented disputes and their solutions exist.*

PRINCIPLE #3: INDIGENOUS PEOPLES' RIGHTS

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

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

Indicator(s):

- *Possible ownership, interests and customary rights of indigenous people are identified and known to the forest management.*
- *Indigenous peoples are free to exercise their forest management rights.*
- *Written agreements between indigenous peoples and the forest authority about the control of forest management exist.*
- *All parties adhere to the agreements made.*

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

Indicator(s):

- *Resources or tenure rights of indigenous peoples are considered in the management plan.*
- *There is a mechanism of recognising and addressing the social problems and rights of indigenous people.*

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

Indicator(s):

- *Management documentation and maps clearly show sites of special cultural, ecological, economic or religious significance to indigenous peoples.*
- *Forest manager and workers are familiar with these sites.*
- *Sites of special cultural, ecological, economic or religious significance to indigenous peoples are recognized in forest management activities.*

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

Indicator(s):

- *Written or verbal agreements between indigenous peoples and the forest authority on the compensation of knowledge exist.*
- *In the case of verbal agreements, both parties should be in agreement on what the agreement contains.*
- *Indigenous peoples are involved in the forest management through employment or others.(e.g. as tree finders, guides, hunting rights, fuel wood collection etc.).*

PRINCIPLE #4: COMMUNITY RELATIONS AND WORKER'S RIGHTS
Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.

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

Indicator(s):

- *The enterprise has an active policy to employ an adequate number of local workers.*
- *Where possible, work in the management unit is offered locally.*
- *There is no evidence of measures excluding local people from employment opportunities in the forest enterprise.*
- *People from local communities are employed in the management unit.*
- *Local communities are given the opportunity to benefit from the services the forest can provide.*

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

Indicator(s):

- *Instructions on health and safety measures exist.*
- *Ongoing training on safety and health is provided.*
- *An internal control system to ensure health and care is in place (incl. statistics on accidents).*
- *Health and care measures are supported by the employer (e. g. allowance for personal safety equipment).*
- *Information on work risks and means to avoid them are provided by the employer.*
- *Safety equipment meets national standard (law, regulation, guideline).*
- *Personal safety equipment is used as a matter of routine.*

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

Indicator(s):

- *The workers are not prevented from joining a trade union of their choice.*
- *A worker's committee or another workers' organization exists within the operation. (Small operations are excepted.)*
- *A point of contact for workers with problems is established.*
- *National working rights are known, recognized and applied (e.g. pay agreements).*
- *The wages, salaries and other social welfare benefits agreed between the employer and the employees or their representatives (e. g. unions) are fixed in the contracts.*
- *A system of equal pay for equal work is being maintained.*

Criterion 4.4 Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.

Indicator(s):

- *Social impacts are monitored and evaluated.*
- *The results of social monitoring are reflected in the management planning.*
- *Relevant stakeholders are known to the enterprise.*
- *Systems for periodical stakeholder consultation (e.g. round table meetings) are in place.*

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

Indicator(s):

- *Possible cases where compensation would be appropriate have been identified and are being dealt with.*
- *Procedures for resolving grievances and for providing fair compensation are in place and documented.*

PRINCIPLE # 5: BENEFITS FROM THE FOREST

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

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

Indicator(s):

- *The enterprise invests pro-actively in the maintenance or improvement of the ecological productivity of the forest.*
- *A recognized bookkeeping system is in place and kept up to date.*
- *A work plan and budget for the current financial year is in place.*
- *Costs of operation are attributed to the correct budget lines.*
- *Cost-benefit-analysis are carried out periodically.*
- *Measures to adapt the costs in relation to the benefits are documented.*

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

Indicator(s):

- *Forest management planning and implementation recognizes the wide variety of forest functions and services.*
- *Forest management shows efforts of diversification of forest products and services.*
- *Forest management recognizes the demands of the society (products and services) and strives for an appropriate innovative marketing strategy.*
- *The enterprise sells its forest products preferably to local or regional processing industries if available.*
- *Forest management shows efforts to support and/or stimulate local processing of forest products.*
- *The enterprise concludes regular contracts with local wood-traders and processing units if available.*
- *Documentation of flow of distribution of forest products is available.*

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

Indicator(s):

- *Recognized low impact harvesting technologies are being applied.*
- *On-site processing operations follow the latest Standards and technologies.*
- *Methods to avoid locally defined unacceptable damage to soil, water systems and wetlands, riparian zones, residual forest areas and sensitive sites are being implemented.*
- *Harvested timber is transported from the forest before the deterioration or decomposition processes start.*
- *A post-harvesting inventory is carried out to determine the level of avoidable and unavoidable damages, and practices are adapted where necessary.*

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

Indicator(s):

- *Forest management is oriented at the production of a wide variety of forest products (timber and non-timber, including lesser known species) and services including tourism and recreation.*

- *A wide variety of forest products and services is marketed locally.*
- *The utilisation of non-timber forest products is encouraged.*

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

Indicator(s):

- *Forest function mapping is available.*
- *Guidelines and measures for the protection and enhancement of forest values and services are in place.*
- *Sensible or special areas like watersheds are considered in management planning and implementation and are designated on maps.*
- *Forestry activities do not damage habitats of commercially or culturally significant fish species within the forest area or downstream.*

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

Indicator(s):

- *The silvicultural system is clearly defined and adapted to the natural dynamics of the forest ecosystem.*
- *Planning of the annual allowable cut (AAC) is clearly stated in the forest management plan and is based on recognized (published) methods and in accordance to the management objectives set.*
- *Inventories as basis for the calculation of the AAC are carried out periodically.*
- *Volumes harvested are monitored, documented and taken into account during the planning process.*

PRINCIPLE #6: ENVIRONMENTAL IMPACT

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

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

Indicator(s):

- *A system assessing environmental impacts appropriate to the scale and intensity of forest management, and the uniqueness of the affected resources is being implemented.*
- *The results of these assessments are taken into account in the planning process.*

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

Indicator(s):

- *Rare, endangered or threatened species and their habitats (e.g. nesting and feeding areas) are documented, monitored, protected and recognized in all management activities (incl. hunting and fishing).*
- *Conservation zones, protection areas and wildlife corridors are established and demarcated on maps, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources.*
- *Procedures to control inappropriate hunting, fishing, trapping and collecting are in place.*
- *Forestry staff cooperates with environmental organizations as appropriate.*
- *The management of game and other wildlife strives for species-rich, healthy and site-adapted populations of indigenous fauna.*
- *Special biotopes of indigenous fauna are known, demarcated on maps and appropriate protection and management activities are prescribed.*
- *Wildlife management recognizes valid laws, regulations and tradition.*
- *The game population is managed in line with the forest management goal(s) and the biodiversity protection concepts of the country, (i.e. avoidance of unacceptable damage to trees and site; especially in Central Europe: natural regeneration of all indigenous tree species is achievable without any artificial protection measures).*

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

- a) Forest regeneration and succession,
- b) Genetic, species, and ecosystem diversity,
- c) Natural cycles that affect the productivity of the forest ecosystem.

Indicator(s):

- *Ecological functions and values are known (as a result of research and education).*

- *Natural forest regeneration and succession processes are recognized and if possible utilized in all management activities.*
- *Areas of high ecological functions or values are monitored and negative changes are corrected.*
- *Areas with degradation in ecological functions and values are known and mapped.*
- *Natural cycles that affect the productivity of the forest ecosystem are identified and recognized.*
- *Forest management takes appropriate measures to restore ecologically degraded sites.*
- *The silvicultural system applied is adapted to the natural dynamics of the forest ecosystem.*
- *Restored areas are monitored and negative changes are corrected.*

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

Indicator(s):

- *An appropriate percentage of the total forest area is protected, recorded on maps and prescribed management activities are in accordance with the conservation objectives set.*
- *All relevant ecosystems (i.e. with a share of more than 10% of the total forest area) are represented in the protected areas.*

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

Indicator(s):

- *Appropriate local guidelines on harvesting and road construction are available.*
- *Local guidelines on harvesting and road construction consider recognized international guidelines, like e.g. FAO Model Code of Forest Harvesting Practice.*
- *Areas susceptible to erosion and water resources are demarcated on maps that are part of the management plan or other connected guidelines.*
- *The implementation and maintenance of the forest infrastructure is satisfactory and in line with the management goal(s).*
- *Road construction does not incur unnecessary erosion.*
- *Buffer zones along streams and water courses are maintained and demarcated on maps.*
- *Measures to avoid pollution of water courses are in place.*
- *A maximum acceptable level of damage to soil and water in all forest operations is defined at the fmu level*
- *Harvesting is carried out according "Reduced Impact Logging" technologies.*
- *Existing permanent sample plots are not affected by harvesting.*
- *No pollution of adjacent waters with increased amounts of sediments is caused by the logging operations.*
- *Environmentally friendly lubricants and fuel are used with preference.*
- *Fuel and oil residues are disposed of properly.*
- *Demarcation of protected areas/zones on maps and clearly visible in the field with a ban or restrictions on movements.*
- *Conservation objectives are taken account of in the final selection of harvestable trees.*
- *Planning of main infrastructure and skidding-track network is carried out on time taking account of:*
 - *designated protected areas*

- *topographical conditions*
- *soil types susceptible to erosion*
- *the hydrological situation*
- *the existing infrastructure constructed during previous harvesting*
- *All timber harvest operations are carried out according to planning instructions.*
- *Trees selected for final harvesting, seed trees and protected trees are clearly marked in the field*
- *Felling instructions include regulations on:*
 - *climber cutting to reduce logging damage (if necessary),*
 - *adherence to tree-marking instructions,*
 - *application of a safe and site-adapted felling technique,*
 - *full utilization of the stem.*
- *Instructions on skidding and log landings / decks include regulations on:*
 - *application of a safe and site-adapted extraction technique,*
 - *skidding uphill on slopes,*
 - *front end of the log lifted off the ground during skidding,*
 - *Skidding on heavy rainy days is prohibited*
 - *ban on skidding in water courses and lakes,*
 - *restriction on logging in protected areas*
 - *limited number and professional construction of log landings or decks*
- *Adapted measures are being applied in situations where environmental protection is the main objective*

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

Indicator(s):

- *Use of chemicals (arboricides, insecticides, herbicides etc.) is strictly controlled. The management has determined guidelines in which situations chemicals may be used, including a strategy of how to move away from chemical methods of pest management.*
- *Pesticides listed in part 4 of 'chemical pesticides in certified forests' document are prohibited.*
- *If chemicals are used, proper equipment is used for the application and staff is trained appropriately.*
- *Environmentally friendly lubricants and fuel are used with preference.*
- *Residues are disposed of in an environmental proper way.*
- *Storage and handling of chemicals follows the latest guidelines on safety and health.*

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

Indicator(s):

- *Guidelines describing the use and disposal of chemicals, containers, liquid and solid non-organic wastes, exist.*
- *A staff member holds responsibility for the environmentally appropriate disposal of waste.*
- *The guidelines are known and being adhered to.*
- *Environmentally friendly lubricants and fuel are used with preference.*

- *Soils and water are being protected from pollution.*
- *Proper disposal of waste from equipment or supplies is done.*

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

Indicator(s):

- *A policy or strategy to minimise the use of biological control agents exists.*
- *All cases where biological control agents are used are documented and monitored.*
- *No genetically modified organisms including planting material and biological control agents are used.*
- *There is no evidence of any deviation from national laws or accepted scientific protocols.*

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

Indicator(s):

- *The use of exotic species has to be justified in every single case.*
- *Exotic species used on a commercial scale should have no demonstrated adverse environmental effects or adverse impacts on the surrounding landscape and the natural species composition.*
- *Unwanted regeneration of exotic species is monitored, and if necessary controlled.*
- *The use of exotic species should be actively monitored to avoid adverse ecological impacts.*

Criterion 6.10 Conversion of natural forest into plantations or non-forest land uses within the forest management unit shall not occur, except in circumstances where conversion:

- a) entails a very limited portion of the forest management unit; and
- b) does not occur on high conservation value forest areas; and
- c) will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit.

Indicator(s):

- *Comprehensive reasons for the conversion have to be given in every single case.*
- *Expectations related to the benefits of the conversion must be realistic and backed up by (scientific) evidence.*
- *The positive conservation effect of a conversion has to be demonstrated.*

PRINCIPLE #7: LAND-USE and MANAGEMENT PLAN

A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long term objectives of management, and the means of achieving them, shall be clearly stated. The forest management plan is integrated into the overall land-use planning and is based on periodical inventories.

Criterion 7.1 The management plan and supporting documents shall provide:

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

Indicator(s):

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

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

Indicator(s):

- *There is a procedure in place for the regular revision and updating of the management plan.*
- *In the revision of the management plan relevant opinions of research institutes, environmental and social non-government organisations are considered.*
- *There is evidence, that changing environmental, social and economic considerations have been included in the revision of the management plan.*

- *A method to evaluate new scientific and technical developments for the inclusion into the revised management plan is in place.*

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

Indicator(s):

- *Special further training on ecological and technical aspects of forest management is offered and supported.*
- *Forest workers are thoroughly introduced to their tasks.*
- *Forest workers are aware of the objectives of forest management.*
- *The work of the forest workers is checked at appropriate intervals by the forest manager.*

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

Indicator(s):

- *A public up-to-date written document summarising all relevant information on the primary elements of the management plan can be made available.*
- *A procedure on how to handle public requests for information on the forest management is in place.*

PRINCIPLE #8: MONITORING AND ASSESSMENT

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

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

Indicator(s):

- *An appropriate monitoring procedure is documented and implemented.*
- *There is evidence that the compared results of different monitoring aspects are used to improve or correct measures in forest management.*
- *Trained staff members have been assigned to implement the monitoring procedures.*

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

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

Indicator(s):

- *Yields of all forest products harvested are recorded.*
- *Information on growth rates, regeneration and condition of the forest are available.*
- *Composition and changes in the flora and fauna are monitored.*
- *Monitoring programmes are documented and implemented to evaluate the environmental and social impacts of harvesting and other operations.*
- *Costs of all forest management activities are recorded and evaluated to judge productivity, and efficiency of forest management.*
- *Forest management actively supports forestry or related research activities on their territory.*

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

Indicator(s):

- *There is a documented procedure to identify all products leaving the forest operation. This procedure should be sufficient to also trace a product back to its origin.*
- *All products sold by the forest operation as certified are recorded with: product type, quantity or volume, date, FSC license number, customer, and information on forest gate. This is backed up by evidence in the bookkeeping system (invoices, bills of lading, orders etc.)*

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

Indicator(s):

- *There is a documented procedure on how to incorporate monitoring results into the implementation and revision of the management plan.*
- *Monitoring results are analysed and prepared for further consideration.*

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

Indicator(s):

- *A public up-to-date written document summarising all relevant information on the results of monitoring can be made available on request.*
- *A procedure on how to handle public requests for information on monitoring results is in place.*

PRINCIPLE #9 : MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS
Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.

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

Indicator(s):

- *A written procedure for inventories to determine the presence of critical biotopes and High Conservation Value Forests is in place.*
- *The management is familiar with the attributes that indicate HCV forests in their region.*
- *Maps are available that locate HCV forests and other protected areas.*

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

Indicator(s) / Important questions:

- *How are high conservation value forests defined by the forest enterprise?*
- *Is the forest manager aware of important areas of high biodiversity within his forest district?*
- *Does the forest enterprise need further strategies to improve knowledge and protection of biodiversity?*

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

Indicator(s):

- *The management plan specifies critical areas and measures that ensure the maintenance and/or enhancement of the applicable conservation attributes.*
- *A public summary of the management plan is available as under 7.5.*

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

Indicator(s):

- *A written procedure for the annual monitoring of conservation attributes is in place.*
- *A procedure for the evaluation of measures implemented is in place.*
- *Report on annual monitoring is available.*

PRINCIPLE # 10: PLANTATIONS

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

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

Indicator(s):

- Objectives of plantation management are included in the management plan, recognizing natural forest conservation and restoration.
- Forest management plan includes strategies or elements to conserve natural forests and to restore degraded sites.
- Clear evidence of the implementation of the management plan is given.

-> see also C 7.1 - 7.5

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

Indicator(s):

- Protection and production zones are demarcated on maps and in planning documents.
- Design and lay-out of the plantation is oriented towards natural landscape features.
- Design and lay-out of the plantation considers areas of natural forests, riparian zones, wildlife biotopes and -corridors.

-> see also C 6.1 - 6.4

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

Indicator(s):

- Monitoring procedures to evaluate the changes in composition of species, age classes and structures are carried out at regular intervals.
- The design and lay-out of the plantation is oriented towards the local ecological conditions taking into account the economic viability of the operations.
- The plantation management considers local needs with reference to forest products and services.

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

Indicator(s):

- *Forest site mapping for the selection of species for planting is/ was carried out before planting.*
- *The reasons for the selection of certain species have to be documented. If exotic species were chosen, the greater performance has to be proven.*
- *A documented procedure to monitor the performance of exotic species in place.*
-> see also C 6.9

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

Indicator(s):

- *The area to be restored to a natural forest cover is demarcated on maps and considered in planning documents.*
- *The area with natural forest cover must have an adequate size to enable the fulfilment of its beneficial functions.*
- *A documented strategy (as part of the management plan) for the area to be restored to a natural forest is available and being implemented.*

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

Indicator(s):

- *A documented procedure to monitor the soil and water condition is in place based on recognised standards if available.*
- *The monitoring results are considered to determine which actions are to be taken to improve or maintain soil structure, fertility and biological activity.*
- *Management practices shall not cause a reduction in water quantity and/or alter drainage patterns.*
- *-> See also C6.5b and C6.5c*

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

Indicator(s):

- *A documented procedure for integrated pest management is being implemented*
- *A documented procedure for the application of a biological control method is being implemented.*
- *A documented procedure and adequate equipment for the prevention and fight of forest fires is being implemented.*
- *A policy to prevent the introduction of invasive plants is being implemented.*
- *Plants with known invasive characteristics are not used.*
- *A policy to minimise the use of chemicals and fertilizers is being implemented.*
- *Fertilizers are not used without justifying results from soil analyses.*
- *Recognised procedures for the application, storage and disposal of chemicals are in place.*
- *Chemicals are only used after documented consideration of alternative non-chemical methods.*

-> see also C 6.6 - 6.9

Criterion 10.8 Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessment of potential on-site and off-site ecological and social impacts, (e.g. natural regeneration, effects on water resources

and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in principles 8, 6 and 4. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.

Indicator(s):

- *Off-site impacts of plantations have been identified and appropriate measures taken, including:*
 - *unwanted natural regeneration,*
 - *effects on water resources,*
 - *effects on soil properties,*
 - *local welfare.*
- *Species-specific information on site demands and on ecological behaviour from experience or local trials is available and considered in the management.*
- *There is no large scale planting of species that have not been shown to be appropriate to the site on the basis of local trials or experience*
- *Plantations are not established on sites of important or sensitive ecosystems; areas of high or unique biological diversity; planned conservation or protection areas or where there are possible adverse effects on an important water catchment area.*
- *Plantations will not be established on lands where ownership and use rights have not been settled.*
- *Disputes arising after establishment will be dealt with appropriately.*
-> see also C 3.1 – 3.4; C 4.1 – 4.5; C 6.1; C 8.1 – 8.5

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

Indicator(s):

- *There is written evidence that the plantation was established before the deadline (if established in areas converted from natural forests).*
- *There is written evidence that the plantation was not established in areas converted from natural forests.*

GLOSSARY

(from: "FSC Principle and Criteria". FSC Document No. 1.2, Revised Version of January 1999)

Words in this document are used as defined in most standard English language dictionaries. The precise meaning and local interpretation of certain phrases (such as local communities) should be decided in the local context by forest managers and certifiers. In this document, the words below are understood as follows:

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. (see Convention on Biological Diversity, 1992)

Biological diversity values: The intrinsic, ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components. (see Convention on Biological Diversity, 1992)

Biological control agents: Living organisms used to eliminate or regulate the population of other living organisms.

Chain of custody: The channel through which products are distributed from their origin in the forest to their end-use.

Chemicals: The range of fertilizers, insecticides, fungicides, and hormones which are used in forest management.

Criterion (pl. Criteria): A means of judging whether or not a Principle (of forest stewardship) has been fulfilled.

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.

Ecosystem: A community of all plants and animals and their physical environment, functioning together as an interdependent unit.

Endangered species: Any species which is in danger of extinction throughout all or a significant portion of its range.

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

Forest integrity: The composition, dynamics, functions and structural attributes of a natural forest.

Forest management/manager: The people responsible for the operational management of the forest resource and of the enterprise, as well as the management system and structure, and the planning and field operations.

Genetically modified organisms: Biological organisms which have been induced by various means to consist of genetic structural changes.

Indigenous lands and territories: The total environment of the lands, air, water, sea, sea-ice, flora and fauna, and other resources which indigenous peoples have traditionally owned or otherwise occupied or used. (Draft Declaration of the Rights of Indigenous Peoples: Part VI)

Indigenous peoples: "The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and, by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; who today live more in conformity with their particular social, economic and cultural customs and traditions than with the institutions of the country of which they now form a part, under State structure which incorporates mainly the national, social and cultural characteristics of other segments of the population which are predominant." (Working definition adopted by the UN Working Group on Indigenous Peoples).

High Conservation Value Forests:

High Conservation Value Forests are those that possess one or more of the following attributes:

- a) forest areas containing globally, regionally or nationally significant :
 - concentrations of biodiversity values (e.g. endemism, endangered species, refugia); and/or
 - large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance
- 2) forest areas that are in or contain rare, threatened or endangered ecosystems
- 3) forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control)
- 4) forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

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.

Local laws: Includes all legal norms given by organisms of government whose jurisdiction is less than the national level, such as departmental, municipal and customary norms.

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.

Native species: A species that occurs naturally in the region; endemic to the area.

Natural cycles: Nutrient and mineral cycling as a result of interactions between soils, water, plants, and animals in forest environments that affect the ecological productivity of a given site.

Natural Forest: Forest areas where many of the principal characteristics and key elements of native ecosystems such as complexity, structure and diversity are present, as defined by FSC approved national and regional standards of forest management.

Nontimber forest products: All forest products except timber, including other materials obtained from trees such as resins and leaves, as well as any other plant and animal products.

Other forest types: Forest areas that do not fit the criteria for plantation or natural forests and which are defined more specifically by FSC-approved national and regional standards of forest stewardship.

Plantation: Forest areas lacking most of the principal characteristics and key elements of native ecosystems as defined by FSC-approved national and regional standards of forest stewardship, which result from the human activities of either planting, sowing or intensive silvicultural treatments.

Principle: An essential rule or element; in FSC's case, of forest stewardship.

Silviculture: The art of producing and tending a forest by manipulating its establishment, composition and growth to best fulfil the objectives of the owner. This may, or may not, include timber production.

Succession: Progressive changes in species composition and forest community structure caused by natural processes (nonhuman) over time.

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).

Threatened species: Any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Use rights: Rights for the use of forest resources 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.