

First edition
31.08.2004

Valid from
30.09.2004

Forest Management - Principles, criteria, and indicators for native forests

Forest management - Principles, criteria and indicators for native forests

Palavras-chave: Manejo florestal. Princípio. Critério. Indicador
Descriptors: *Forest management. Principle. Criterion. Indicator*

ICS 13.020.10

© ABNT 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by means, electronic or mechanical, including photocopying and microfilm, without permission in writing from ABNT.

ABNT Office

Av. Treze de Maio, 13 – 28º floor

20003-900 – Rio de Janeiro – RJ

Tel.: + 55 21 3974-2300

Fax: + 55 21 2220-1762

abnt@abnt.org.br

www.abnt.org.br

Printed in Brazil

Summary

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Principles, Criteria, and Indicators – natural forest	3
4.1 Principle 1 – Legal compliance.	4
4.2 Principle 2 – Rational use of forest resources in the short, medium, and long terms, in search of its sustainability.	6
4.3 Principle 3 – Care for Biological Diversity	7
4.4 Principle 4 – Respect to water, soil, and air.	9
4.5 Principle 5 – Environmental, economic, and social development of the regions in which forest activity is inserted.	10

Foreword

The ABNT – The Brazilian Organization for Standardization – is the National Forum for Standardization. Brazilian Standards, whose contents are the responsibility of the Brazilian Committees (ABNT/CB) and of the Sectorial Standardization Organisms (ABNT/ONS), are prepared by Study Committees (CE), made up by representatives of the sectors involved, including: producers, consumers and neutral participants (universities, laboratories and others).

The Brazilian Draft Standards, prepared by ABNT/CB and ABNT/ONS, are circulated in Public Consultations to ABNT members and other interested parties.

This version of the ABNT NBR 15789 was prepared by the Temporary Special Study Commission (CEET) for Forest Management, whose members are Brazilian experts that represent the different sectors involved.

The ABNT NBR 15789 was prepared by ABNT/CEET 00:01.39 – Temporary Special Study Commission on Forest Management. This project circulated in Public Consultation through Edictal nº 11, dated 28.11.2003, with the Project number 00:01.39-006.

In case of any doubts or conflicts regarding the content of this document, the original version, in Portuguese, shall be considered as the prevailing one.

Forest Management - Principles, criteria, and indicators for native forests

1 Scope

This Standard establishes the principles, criteria, and indicators for the forest management of natural forests.

2 Normative references

The standards listed below contain provisions that, when mentioned in this text, also constitute prescriptions this Standard. The indicated editions were in effect at the time of this publication. Since all standards are subject to revision, it is recommended that those entities entering into agreements based on this Standard should check the convenience of using more recent editions of the standards cited below. ABNT keeps a record of the standards that are currently in effect at any given time.

ABNT NBR 14789:2001 – Forest management – Principles, criteria, and indicators for natural forests

3 Definitions

For the purposes of this Standard, the definitions given in ABNT NBR 14789 and the following definitions apply:

3.1 clearing: Open path in the vegetation of the forest management unit or in its perimeter to prevent the spread of fire, division into parcels or plots or for the movement of goods or people. [ABNT NBR 14789:2001]

3.2 degraded area: Area of land or vegetation that changed into a category with a higher degree of deterioration due to anthropic activity or natural phenomena. [ABNT NBR 14789:2001]

3.3 forest management area: Area, target of the certification, defined for the purpose of good forest management practices in social, environmental, and economic terms.

3.4 permanent preservation area: Area protected, covered or not by natural vegetation, with the environmental function of preserving the water resources, landscaping, the geological stability, the biodiversity, the genic flow of the fauna and flora, the soil, assuring the welfare of the populations.

3.5 legal reserve area: Area located in the inside of a real estate, excluding permanent preservation area, aimed at the sustainable use of the natural resources, the conservation, and the re-licensing of the ecological processes, the conservation of the biodiversity, shelter and protection to natural fauna and flora.

3.6 environmental aspect: Element of the activities, products or services of an organization, which can interact with the environment.

NOTE Significant environmental aspect is that which can or can not have a significant environmental impact.

3.7 criterion: Expression of an attitude regarding parameters or requirements, which translates the adherence to a principle related to a state or dynamic of a given system. [ABNT NBR 14789:2001]

3.8 rights of use: Right to the use of forest resources, which can be defined by local customs, mutual agreements or prescribed by other entities with accession rights. These rights can restrict the use of certain resources in specific levels of consumption or in specific harvest techniques.

3.9 legal rights: Right of use and land tenure acquired backed by federal, state or local legislations in force.

3.10 non-predatory traditional rights: Right to the use of natural resources of a property, by a traditional population, without threatening their sustainability.

3.11 biological diversity: Variety of species, communities and populations in a given ecosystem. [ABNT NBR 14789:2001]

3.12 ecosystem: Dynamic complex of plants, animals, and microorganisms and its abiotic environment, interacting as a functional unit. [ABNT NBR 14789:2001]

3.13 species: Species, subspecies or a geographically isolated population.

3.14 endemic species: Native species limited to occurrence in certain environments or certain geographical area with self-ecology restricted to a specific habitat.

3.15 threatened species: Species that for various reasons face a high probability of extinction if direct pressures upon them or their habitat continue.

3.16 rare species: Species that have low numbered natural populations or that are located in restricted habitats.

3.17 edaphic: That belongs or is related to the soil. [ABNT NBR 14789:2001]

3.18 forest: Plant community predominantly constituted by arboreal species, in any phase of its development, as by other plants growing closely, their soil, flora and fauna, their state of inter-relatedness, and the resources and values attributed to them. [ABNT NBR 14789:2001]

3.19 high conservation level forest: Forest areas that present high value of biodiversity; contain rare or threatened ecosystems; promote basic environmental services; make possible to supply natural demands of local populations, contemplating its subsistence or maintenance of its cultural, religious, and historic identity or possess archaeological and speleological features.

3.20 environmental impact: Any change to the environment, whether adverse or beneficial, wholly or partially which results from activities, products or services of an organization. [ABNT NBR 14789:2001]

3.21 indicator: Qualitative or quantitative parameter that enables the evaluation, in an objective and unambiguous way, of the characteristics of the forest ecosystem or of the related social system, or that describes elements of forest management and the productive processes carried out in this ecosystem. [ABNT NBR 14789:2001]

3.22 pre-harvesting inventory (forest census): Survey of all trees with commercial value existing in an annual harvest unit. The census activities shall be carried out one or two years before harvesting, involving demarcation of the stands, opening of the guidance and identification trails, location and assessment of the trees with commercial value.

3.23 road network: set of roads and ways used for locomotion, transport of personnel, machinery and equipment, supplies and products within the forest management unit. [ABNT NBR 14789:2001]

3.24 forest management: Management of the forest aimed at obtaining products and services while respecting environmental and social variables that guarantee the support mechanisms of the ecosystem being managed. [ABNT NBR 14789:2001]

3.25 environment: Set of conditions, natural elements, laws, influences and interactions of a physical, chemical and biological nature, which allows shelter and regulate life in all its forms. [ABNT NBR 14789:2001]

3.26 organization: Company, corporation, firm, enterprise or institution, or part or combination thereof, public or private, corporation, limited liability company, or under any other form of association, which has its own activities and administrative structure. [ABNT NBR 14789:2001]

3.27 stakeholder: Individual or group that is interested in or affected by the activities of the forest management unit. [ABNT NBR 14789:2001]

3.28 indigenous population: Series of families or indigenous communities, who live in complete state of isolation concerning the other sectors of the national community, in intermittent or permanent contacts, without, however, being integrated in them. The Indians are considered:

- a) isolated – when they live in unknown groups or in groups that have little and vague information by means of possible contacts with elements of the national community;
- b) under integration - when, in intermittent or permanent contact with external groups, conserve less or greater part of the conditions of its natural life, but accept some practices and forms of existence common to the other sectors of the national community, which along the time, will be needed more for their own sustention;
- c) integrated - when incorporated to the national community and acknowledged in full exercise of their civil rights, even if they conserve their practices, customs, and traditions related to their culture.

3.29 local population: Human group adjacent to the forest management areas.

3.30 traditional populations: População vivendo em estreita relação com o ambiente natural, dependendo de seus recursos naturais para a sua reprodução sócio-cultural, por meio de atividades de baixo impacto ambiental.

3.31 tenure: Right acquired on property, occupancy, access or use of a unit of a particular area or of its associated resources or due to legal statutes acknowledged by the legislation in force in the country.

3.32 principle: Legislation or fundamental rule that serves as a basis for action and which is expressed in the form of an objective in relation to the function of the forest ecosystem and the aspects pertaining to the social system that is interrelated with this ecosystem. [ABNT NBR 14789:2001]

3.33 agrototoxic products: Products and agent of physical, chemical or biological processes, aimed at being used in the sectors of production, storage and of enrichment of agricultural products, in pastures, protection, storage, and enrichment of agricultural products, in pastures, forest protection, natural or planted, and of other ecosystem and of urban, water and industrial environments, with the purpose of changing the composition of the flora or fauna, in order to preserve them from damaging action of live beings considered harmful, as well as substances and products employed as defoliant, desiccants, stimulators, and inhibitor of growth.

3.34 forest products: all products obtained from the forest, wood products or not.

3.35 recovery: Process through which an ecosystem is managed aiming at re-establishing one or more of its functions or services.

3.36 recomposition: Series of measures that aim at re-establishing the degraded areas with improvement of some elements of the previous vegetation.

3.37 sustainability: Use of natural resources in an environmentally responsible, socially just and economically viable manner, such that attending to actual needs will not compromise possibilities of use for future generations. [ABNT NBR 14789:2001]

4 Principles, Criteria, and Indicators – natural forest

The principles established in this Standard are the reference for forest management.

The principles are expanded into criteria, which are the expression of the requirements that describe the state or the dynamics of a forest ecosystem and the social system associated.

The verification of compliance of each criterion is determined by the assessment of adherence of a set of specific indicators, which may be quantitative or qualitative.

Depending on the location and end purpose of a forest management unit, not all of the indicators will be applicable or present. Nevertheless, it is always necessary to assess all indicators that are pertinent to the local situation.

So, a hierarchic structure of principles, criteria and indicators is defined (see figure 1), whose function is to establish monitoring and demonstrate good forest management, which will serve as a reference for assessing the quality of the forest management.

Implementation of a criterion can be considered successful when it is demonstrated that all the respective indicators have been appropriately attended to. A principle, in turn, can be considered as implemented when compliance with all criteria is confirmed. Finally, forest management can be considered as implemented, in accordance with this Standard, when compliance with principles is evidenced.

Depending on the region and the site, the indicators may have different relative importance.

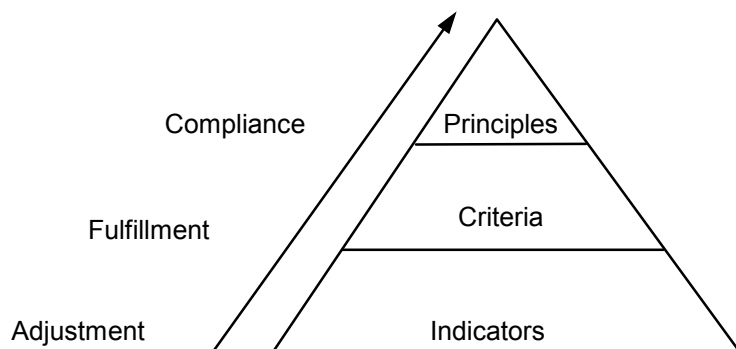


Figure 1 — Hierarchic structure

4.1 Principle 1 - Legal compliance.

The forestry enterprise shall be managed by employing attitudes and actions that ensure compliance with current Federal, State and Municipal legislation. Federal law, as well as international treaties and agreements shall be disseminated to all of those involved in the process of obtaining the forest products, attending the criteria and indicators described from 4.1.1 to 4.1.4.

4.1.1 Criterion 1.1 - The organization shall carry out the activities related to forest management, according to legislations and forest and current environmental regulations.

Indicators:

- a) existence of procedures that identify the legislation and other regulations applicable to the activities carried out in the forest management area;
- b) existence of records that prove fulfillment of legislation and of other regulations applicable to the activities carried out in the forest management area.

4.1.2 Criterion 1.2 - The rights of the local, traditional, and indigenous populations, of using and occupying forestlands, shall be respected, according to the legislation in force.

Indicators:

- a) evidence that the legal rights of the local, traditional, and indigenous populations are respected;
- b) evidence that the borders between neighboring or bordering areas and the forest management area, are identified, delimited, and respected;

NOTE In the case of the communities existing within the property, the area of forest management use should be delimited.

- c) existence of document of direct use, domain or land tenure, according to the current agrarian legislation;
- d) evidence that the organization acts in an effective form for the resolution of possible conflicts or legal disputes related to land tenure and losses inflicted to third parties.

4.1.3 Criterion 1.3 - The labor, pension, and tax legislations shall be complied with.

Indicators:

- a) evidence that pension issues of all forest workers are in conformity with the current legislation;
- b) evidence that the aspects pertinent to the labor issues are in conformity with the legislation in force, regulatory labor standards, agreements and collective conventions;
- c) evidence that the organization has fulfilled its fiscal and tax obligations;
- d) evidence that the measures with the service providers are taken, aiming its compliance labor, tax, and pension legislation, as well as regulatory labor standards, agreements, and collective conventions;
- e) existence of an occupational safety and health management program.

NOTE It is understood that a management program consists of at least:

- policy, objectives, and targets;
- planning;
- procedures;
- resources;
- measurement, analysis, and improvement.

4.1.4 Criterion 1.4 - The organization shall disseminate to those involved in forest management the applicable current legislation.

Indicators:

- a) existence of the procedures for the dissemination of the applicable current legislation;
- b) evidence of the efficacy of the dissemination mechanism for the applicable current legislation.

4.2 Principle 2 - Rational use of forest resources in the short, medium, and long terms, in search of its sustainability.

Forest management shall be planned and executed, through the organisation's own services or by means of third parties. The organization shall show and present attitudes that lead to the sustainable use of resources and services offered by the forest, attending the criteria and indicators described from 4.2.1 to 4.2.4:

NOTE Among some examples of services offered by the forest the following may be mentioned: ecological functions, leisure, research, etc.

4.2.1 Criterion 2.1 - The organization shall adopt strategies oriented towards sustainable use and management of forest resources.

Indicators:

- a) existence of procedures aimed at:
 - identifying all environmental aspects that can be influenced and the resulting impacts;
 - characterising and analysing the significant environmental impacts;
 - establishing measures for turning positive environmental impacts;
 - establishing measures for avoiding, mitigating or compensating significant negative environmental impacts caused by forest management activity;
 - monitoring the implementation of measurements in order to avoid, mitigate, or compensate significant negative environmental impacts caused by forest management activity.
- b) Evidence of the adoption of practices that indicate efficient and environmentally adequate use of forest resources;
- c) existence of documented procedures for activities of silvicultural treatments, opening, and maintenance of roads, harvest, and transport of forest products;
- d) evidence of the procedures of protection against land invasion and illegal logging of forest products in the forest management area.

4.2.2 Criterion 2.2 - The Forest operations shall be backed by sustainable forest management plans.

Indicators:

- a) existence of a legally approved forest management plan.
- b) evidences that the forest management plan assures the sustainability of the harvest in terms compatible with the cutting cycle. When it is the case, the forest management plan shall assure the incorporation of new areas;
- c) existence of technical and economical justifications, documented for the dimensioning of forest management operations;
- d) existence of planning of the pre-harvesting and harvesting operations, aiming at minimizing the negative impacts, caused by the harvest of the remaining forest;
- e) evidence that the forest management plan was made and is carried out by a legally licensed professional;
- f) evidence that the organization aims at improving the botanical identification;

- g) evidence that the forest management plan is monitored and revised by a legally licensed professional, incorporating the surveillance results;
- h) existence of procedures documented and fulfillment of emergencies and contingency plans;
- i) existence of continuous forest inventory, adjusted to the planning, assessment of the harvesting and monitoring of the forest;
- j) evidence that the objectives and targets of the forest management plan are known by the forest workers and disseminated to the local populations;

4.2.3 Criterion 2.3 - The organization shall implement appropriate forest technology to the local peculiarities.

Indicators:

- a) evidence that the technology employed is backed by the results of studies and researches carried out for conditions similar to those of the forest management area;
- b) evidence of revision of the procedures for execution of the forest management operations;
- c) evidence that the operational procedures incorporate successful results and technically based on experiences, tests or researches carried out in the region, in order to improve the conduction of forest management;
- d) evidence that the equipment, machines, and consumables are adequate for the local topographic, soil, climatic conditions and to the forest management characteristics.
- e) evidence that training and labor capacity-building programs are implemented, with the following purposes:
 - technically build the capacity of forest workers;
 - avoid occupational illnesses and accidents;
 - minimize occurrences of negative environmental impacts.

4.2.4 Criterion 2.4 - There shall be system implemented that makes possible to trace the flow of forest products from their origin.

Indicators:

- a) existence of updated register of the forest management area;
- b) existence of documented identification procedures for forest products in the forest management area;
- c) existence of documented procedures of identification, protection, and handling of forest products at intermediary storage yards;
- d) existence of stock control records.

4.3 Principle 3 - Care for Biological Diversity.

The organization shall manage the forest in order to minimize the negative impacts of its activities upon the flora and fauna. It shall take care of the maintenance of the biological diversity, attending the criteria and indicators described from 4.3.1 to 4.3.5:

4.3.1 Criterion 3.1 - Forest protection technique shall be adopted.

Indicators:

- a) existence of information and resources adequate for prevention, vigilance, and control of forest fires;
- b) existence of information and resources adequate for the prevention and control of pests, illnesses, invading species;
- c) evidence of the procedures, which aim at the adequate use and minimization of the employment of agrototoxic products.

4.3.2 Criterion 3.2 - The biological resources of the Forest management area shall be monitored in order to provide information for the confirmation or revision of the forest management plan.

Indicators:

- a) existence of initiative, support or partnership for the surveillance of the fauna and local flora;
- b) evidence of incorporation of the surveillance results of the flora and fauna to the forest management plan.

4.3.3 Criterion 3.3 - The forest operations shall be carried out considering the protection of the remaining ecosystems. Unique ecosystems with environmental, archaeological, historic cultural, or social importance have to be preserved.

Indicators:

- a) existence of procedures for the conservation of flora and fauna within its natural habitat;
- b) existence of protection procedures in case of the occurrence of endemic species, rare or endangered in the forest management area;
- c) existence of mapping, demarcation and protection of historic, archaeological sites of cultural or social value;
- d) identification of the existing conservation units in the influence area of the enterprise;
- e) existence of clear definition, mapping, and documentation of the permanent preservation areas and of the legal reserve, within the forest management area.

4.3.4 Criterion 3.4 - The degraded areas within the forest management area shall be recovered or recomposed, according to the current legislation.

Indicators:

- a) existence of maps, sketches or images that indicate the degraded areas in the forest management area;
- b) existence of silvicultural practices and procedures that aim at recovering or recomposing the degraded areas.

4.3.5 Criterion 3.5 - Hunting and fishing activities shall be controlled within the forest management units, in accordance with current legislation.

Indicators:

- a) existence of vigilance measures and hunting and fishing control;

NOTE It is understood that the activities above are carried out in collaboration with the competent authorities.

- b) existence of signalization and warning instruments for hunting and fishing control;
- c) existence of information dissemination to the forest worker and local populations regarding hunting and fishing control.

4.4 Principle 4 - Respect to water, soil, and air.

Forest management and technological development programmes shall foresee and adopt techniques that consider soil conservation, water and air resources, attending the criteria and indicators described from 4.4.1 to 4.4.4:

4.4.1 Criterion 4.1 – Forest management shall be based on environmental planning before the use the area.

Indicators:

- a) documented evidence of the characterization of the water resources, considering the microbasin(s) in which the forest management area is inserted;
- b) existence of procedures for the definition of the forest management area and locating of the road network, taking into consideration the local topography, the soils, and the water resources;
- c) evidence that the forest management activities are planned and carried out, taking into consideration the topography, soils, water resources, and the climate.

4.4.2 Criterion 4.2 - Water and soil resource conservation, monitoring and maintenance practices shall be adopted.

Indicators:

- a) evidence of the adoption of techniques that aim at the conservation of the soil of the water resources;
- b) existence of assessment of qualitative and quantitative parameters of water and soil resources, which are, directly or indirectly under the control and influence of the organization¹⁾;
- c) evidence that the road network and clearings are kept in conditions that do not favor erosion and that keep the water courses;
- d) evidence that practices for the conservation and re-composition of the permanent preservation areas are adopted.

4.4.3 Criterion 4.3 - The organization shall adopt a policy of rational use of agrototoxic, oil, and fuel products, and forwarding of its residues and packaging.

Indicators:

- a) evidence that the technical recommendations for the handling, preparation, and applying of the necessary agrototoxic products in the forest operations are verified;
- b) existence of agronomic guidelines in the use of agrototoxic products;
- c) evidence that agrototoxic products banned by international agreements or laws in force in the country are not used;

1) When pertinent, is based on the identification carried out of significant aspects and environmental impacts, according to what has been laid down in item 4.2.1-a)

- d) evidence that the storage of the agrotoxic products, oils, and fuels meet the recommendations of the manufacturers and of the current legislation;
- e) existence of a control and forwarding system of agrotoxic products, oils, and fuels, and of its packaging;
- f) evidence that the forest workers who handle and apply agrotoxic products are licensed and make use of individual protection equipment;
- g) evidence that the transport of agrotoxic products, oils, and fuels in the storage places and the field is carried out with appropriate equipment and vehicles, according to legislation in force.

4.4.4 Criterion 4.4 - The organization shall adopt and implement a policy for the reduction, re-utilisation, recycling, or adequate treatment of solid residues, liquid effluents, and gaseous emissions.

Indicators:

- a) existence of a system of selective collection and residue storage;
- b) evidence that the dangerous residues are forwarded to the licensed industrial landfills or sent to licensed companies, in order for them to carry out the adequate treatment;
- c) evidence that the residues and effluents are treated and laid out according to current legislation;
- d) existence of control plans and monitoring of spills and leakages;
- e) existence of initiative for the reduction and use of forest harvest residues;
- f) existence of the preventive and corrective maintenance programming of machines, vehicles, and equipment.

4.5 Principle 5 – Environmental, economic, and social development of the regions in which forest activity is inserted.

The organization must have a policy of interrelating with employees and communities within the area of influence the forest management unit, and must provide evidence of the benefits of the forest activities on social, environmental and economic aspects, complying with the following criteria and indicators:

4.5.1 Criterion 5.1 – The forest organization shall incentive programs of community interest, in order to improve the life conditions of the local population.

Indicators:

- a) evidence of the identification of social and economic aspects upon which it is possible to have influence and the resulting impacts;
- b) evidence of actions for avoiding, mitigating or, when applicable, compensating significant negative social and economical impacts resulting from its operations;
- c) evidence of measures aiming at turning feasible positive social and economic impacts;
- d) evidence that the non-predatory habits and customs of the local, traditional, and indigenous populations are respected;
- e) evidence that the intellectual property of the traditional and indigenous populations is respected;
- f) evidence that priority is given to the participation of inhabitants of the local populations in the different activities related to the forest management area;

- g) existence of actions that stimulate local enterprises;
- h) existence of actions that stimulate health programs with local populations;
- i) existence of forest worker health, alphabetization, security, and hygiene programs implemented, accessible to their direct dependents;
- j) existence of actions that stimulate environmental education programs developed with local populations;
- k) existence of environmental education programs for the workers of the enterprise;

4.5.2 Criterion 5.2 - The organization shall implant programs of dissemination and communication with the interested parties.

Indicators:

- a) existence of procedures and instruments for clear and objective dissemination of the activities and forms of action of the forest enterprise;
- b) existence of communication channel between forest organization and the interested parties;
- c) evidence of conciliatory measures adopted for the resolution of conflicts between forest producer and the interested parties;
- d) evidence of good relationship with representative organizations of the local society and related entities;
- e) evidence of the civil society or public institutions in the divulgation and communication programs.